

This document gives pertinent information concerning the modification of the Virginia Pollutant Discharge Elimination System (VPDES) Permit listed below. This permitting action is being processed as a modification to a Major, Industrial permit. The discharges result from the operation of an existing 1845 Mega Watt (MW) natural gas and oil fired steam electric generating station. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards (WQS) of 9VAC25-260 et seq.

On June 30, 2014, The Department of Environmental Quality – Northern Regional Office (DEQ-NRO) received a permit modification request from Dominion Resources Services for the Possum Point Power Station. On December 24, 2014, DEQ-NRO received an addendum to the June 2014 modification request. On August 20, 2015, an additional modification request was received to address closure of the ash ponds at the Possum Point Power Station pursuant to a 2015 U.S. Environmental Protection Agency (EPA) final Rule that regulates the disposal of coal combustion residuals (CCR); hereafter referred to as final coal combustion residuals rule. A final modification request was received on October 21, 2015, to address stormwater outfalls associated with ash handling areas. This permit action addresses the industrial wastewater and stormwater discharges associated with the closure of the facility's ash ponds and those items not related to ash pond closure noted in Section 31 of the Fact Sheet. All other aspects of the Fact Sheet and final permit issued April 3, 2013 remained unchanged.

1. Facility Name and Mailing Address: Dominion – Possum Point Power Station  
5000 Dominion Boulevard  
Glen Allen, VA 23060  
SIC Code : 4911 - Electric Services  
  
Facility Location: 19000 Possum Point Road  
Dumfries, VA 22026  
County: Prince William  
Facility Contact Name: Mr. Jeff Marcell  
Telephone Number: (703) 441-3813
2. Permit No.: VA0002071  
Expiration Date of previous permit: October 23, 2012  
Other VPDES Permits associated with this facility: None  
Other Permits associated with this facility: Air – Registration Number 70225 (Title V)  
Hazardous Waste – VAD000620476  
E2/E3/E4 Status: Not Applicable
3. Owner Name: Virginia Electric and Power Company d/b/a Dominion Virginia Power  
Owner Contact/Title: Ms. Oula Shehab-Dandan / Environmental Consultant  
Telephone Number: (804) 273-2697
4. Reissuance Application Complete Date: April 12, 2012  
Permit Modified By: Susan Mackert, Bryant Thomas  
Draft Modification Reviewed By: Alison Thompson, Thomas Faha  
Central Office Review By: Allan Brockenbrough, Curt Linderman, Justin Williams  
  
Public Comment Period : Start Date: October 30, 2015 End Date: December 14, 2015

## 5. Receiving Waters Information: Outfall 001/002 (Waterbody ID: VAN-A26E)

Receiving Stream Name :	Quantico Creek	Rivermile:	0.83
Stream Code:	1aQUA	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II
Section:	6	Special Standards:	b

## Receiving Waters Information: Outfall 003 (Waterbody ID: VAN-A26E)

Receiving Stream Name :	Quantico Creek	Rivermile:	0.97
Stream Code:	1aQUA	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II
Section:	6	Special Standards:	b

## Receiving Waters Information: Outfall 004 (Waterbody ID: VAN-A26E)

Receiving Stream Name :	Quantico Creek	Rivermile:	0.13
Stream Code:	1aQUA	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II
Section:	6	Special Standards:	b

## Receiving Waters Information: Outfall 005 (Waterbody ID: VAN-A26E)

Receiving Stream Name :	UT, Quantico Creek*	Rivermile:	0.14
Stream Code:	1aXGR	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II
Section:	6	Special Standards:	b

\*UT – Unnamed Tributary

## Receiving Waters Information: Outfall 007 (Maryland Waters)

Receiving Stream Name :	Potomac River	Rivermile:	81.96
Section:	Maryland 02140102	Subbasin:	Lower Potomac
Stream Class:	Maryland Designated II	Special Standards:	Maryland Designated Use II

## Receiving Waters Information: Outfall 008 (Maryland Waters)

Receiving Stream Name :	Potomac River	Rivermile:	81.99
Section:	Maryland 02140102	Subbasin:	Lower Potomac
Stream Class:	Maryland Designated II	Special Standards:	Maryland Designated Use II

## Receiving Waters Information: Outfall 009 (Maryland Waters)

Receiving Stream Name :	Potomac River	Rivermile:	82.02
Section:	Maryland 02140102	Subbasin:	Lower Potomac
Stream Class:	Maryland Designated II	Special Standards:	Maryland Designated Use II

## Receiving Waters Information: Outfall 010/S107 (VAN-A26E)

Receiving Stream Name :	UT, Quantico Creek	Rivermile:	0.09
Stream Code:	XOC	Subbasin:	Lower Potomac
Stream Basin:	Potomac	Stream Class:	II

## Receiving Waters Information: Outfalls 001/002, 003, 004, 007, 008, and 009

7Q10 Low Flow:	Tidal	7Q10 High Flow:	Tidal
1Q10 Low Flow:	Tidal	1Q10 High Flow:	Tidal
30Q10 Low Flow:	Tidal	30Q10 High Flow:	Tidal
Harmonic Mean Flow:	Tidal	30Q5 Flow:	Tidal

## Receiving Waters Information: Outfall 005 (Interim Configuration) and Outfall 010

7Q10 Low Flow:	0 MGD	7Q10 High Flow:	0 MGD
1Q10 Low Flow:	0 MGD	1Q10 High Flow:	0 MGD
30Q10 Low Flow:	0 MGD	30Q10 High Flow:	0 MGD
Harmonic Mean Flow:	0 MGD	30Q5 Flow:	0 MGD

## 6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<input checked="" type="checkbox"/> State Water Control Law	<input checked="" type="checkbox"/> EPA Guidelines (40 CFR Part 423)
<input checked="" type="checkbox"/> Clean Water Act	<input checked="" type="checkbox"/> Water Quality Standards (VA and MD)
<input checked="" type="checkbox"/> VPDES Permit Regulation	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> EPA NPDES Regulation	

## 7. Licensed Operator Requirements: Not Applicable (Industrial Discharge)

## 8. Reliability Class: Not Applicable (Industrial Discharge)

## 9. Permit Characterization:

<input checked="" type="checkbox"/> Private	<input checked="" type="checkbox"/> Effluent Limited	<input checked="" type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input checked="" type="checkbox"/> Whole Effluent Toxicity Program Required	<input type="checkbox"/> Interim Limits in Permit
<input type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input type="checkbox"/> TMDL		

**10. Wastewater Sources and Treatment Description:**

The Dominion – Possum Point Power Station is an existing natural gas and oil fired steam electric generating station. The facility ceased the use of coal in March 2003, but five ash ponds (A, B, C, D, and E) remain on site. Please see Sections 11, 21.c and 22.k of the Fact Sheet for additional discussion on the ash ponds. All coal piles have subsequently been removed.

The facility utilizes three boiler units (Units 3, 4, and 5), one combined cycle combustion turbine (Unit 6), and six simple cycle combustion turbines generating a combined 1845 MW total gross. Water needed for unit operations is withdrawn from the Potomac River utilizing intake structures located on the Virginia shore. The intake structure formerly associated with Units 1 and 2, which were retired in June 2003, is currently used for Units 5 and 6. A second intake structure is dedicated to Units 3 and 4. An oil loading dock is also located on the Potomac River north of the two intake structures.

TABLE 1 – Generation Units		
Generating Unit	Fuel Source	MW Generation
Unit 3	Natural Gas	110 MW
Unit 4	Natural Gas	220 MW
Unit 5	#6 Low Sulfur Fuel Oil / #2 Low Sulfur Fuel Oil	850 MW
Unit 6	Natural Gas / #2 Low Sulfur Fuel Oil	575 MW
Combustion Turbines 1 - 6	#2 Low Sulfur Fuel Oil	15 MW each

Pursuant to the final coal combustion residuals rule promulgated on April 17, 2015, Dominion is closing the ash ponds at the Possum Point Power Station. To date, pre-closure activities have included the movement of ash from Ash Ponds A, B, C, and E to Ash Pond D as authorized under Part I.F.11 of the facility's existing permit, as well as the pumping of comingled decant water, dewatering water and stormwater from Ash Ponds A, B, C, and E to Ash Pond D. There has not been a discharge of the comingled water; all water is currently stored in Ash Pond D. In order to begin preparation for closure of the existing ash ponds, all water that is currently stored in Ash Pond D must be discharged. As such, the primary focus of this permit modification is to address the discharge of the comingled decant water, dewatering water, and stormwater from Ash Pond D. The discharge from Ash Pond D will be managed through the use of a treatment system designed to address the effluent limitations established within this permit. See Section 18 of the Fact Sheet for additional discussion on the treatment system.

See Attachment 1 for the National Pollutant Discharge Elimination System (NPDES) Permit Rating Worksheet.

See Attachment 2 for a facility schematic/diagram.

TABLE 2 – Industrial Process Wastewater Outfall Description

Outfall Number	Discharge Sources	Treatment	Average Flow	Latitude and Longitude <sup>1</sup>
001/002**	Unit 3, Unit 5 and Unit 6, Stormwater*	Mixing	86.38 MGD	38° 32' 12" N 77° 17' 00" W
	*Sources include Unit 3 condenser cooling water, Unit 5 cooling tower blowdown (Internal Outfall 201), Unit 6 cooling tower blowdown (Internal Outfall 202), Internal Outfall 503 (interim, based on operational needs) and stormwater. The average flow does not include flows that may be contributed from Internal Outfall 503. **Because the discharge from Outfall 001 and Outfall 002 originates from a common Seal Basin, the discharge is considered to be identical. As such, the discharge location is designated as Outfall 001/002 and reported on a Discharge Monitoring Report form as Outfall 001.			
003	Unit 4 Condenser Cooling Water	None	82.55 MGD	38° 32' 17" N 77° 16' 58" W
004	Low Volume Waste Settling Pond*	Sedimentation, Flocculation, Skimming, Neutralization, Chemical Precipitation, Mixing	2.59 MGD	38° 31' 55" N 77° 17' 04" W
	*Sources include Internal Outfall 503 (interim, based on operational needs), Outfall 502 discharge, Unit 5 cooling tower drift, yard drains, floor drains, Unit 5 circulating water, Units 1-4 sand filter backwash, filter purge, Unit 6 wash water, Unit 6 Reverse Osmosis (RO) trailer discharge, electrodialysis reversal (EDR) backwash, neutralization sump, and stormwater. The average flow does not include flows that may be contributed from Internal Outfall 503.			
005	Ash Pond D Dewatering*	Sedimentation, Mixing, Skimming	0.98 MGD	38° 33' 6.89" N 77° 17' 36.8" W
	* Interim sources include: Ash Pond D comingled process water discharge (Internal Outfall 503). * Final sources include: Internal Outfall 503 and Outfall 501.			
007	Intake Screen Backwash Water*	Mixing	0.19 MGD	38° 32' 9.8" N 77° 16' 45.8" W
	*Sources include Units 3, 4, 5 and 6 cooling water intake structures.			
008	Intake Screenwell Freeze Protection Water*	Mixing	0.00 MGD	38° 32' 10" N 77° 16' 46" W
	*Sources include non-contact cooling water.			
009	Intake Screen Backwash Water *	Mixing	0.19 MGD	38° 32' 11.5" N 77° 16' 45.6" W
	* Sources include Units 3 – 4 cooling water intake structures.			

TABLE 2 – Industrial Process Wastewater Outfall Description (Continued)

Outfall Number	Discharge Sources	Treatment	Average Flow	Latitude and Longitude <sup>1</sup>
010	Ash Pond D Toe Drain*	None	Variable	38° 32' 48.9" N 77° 17' 10.8" W
	*Sources include groundwater infiltration from Ash Pond D (toe drainage), diverted groundwater around the impoundment and stormwater.			
201 (Internal)	Unit 5 Cooling Tower Blowdown	Dechlorination, Sedimentation, Mixing	1.48 MGD	38° 32' 11" N 77° 16' 57" W
202 (Internal)	Unit 6 Cooling Tower Blowdown	Dechlorination, Sedimentation, Mixing	0.91 MGD	38° 32' 11" N 77° 16' 57" W
501 (Internal)	Metals Cleaning Waste Treatment Basin*	Mixing, Neutralization, Chemical Precipitation, Sedimentation	1.04 MGD	38° 32' 58" N 77° 17' 20" W
	*Sources include boiler wash water, air preheater rinse, precipitator rinse, stormwater.			
502 (Internal)	Oily Waste Treatment Basin*	Mixing, Sedimentation, Skimming	0.57 MGD	38° 32' 42" N 77° 16' 40" W
	*Sources include Unit 5 wastewater from various operations, oil unloading and handling system wastewater, tank bottoms, auxiliary boiler blowdown, Unit 6 cooling tower drift, false start drains, stormwater.			
503 (Internal)	Comingled Process Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)*	Technology to be Determined	2.53 MGD	NA
	*Sources include comingled decant water, dewatering water and stormwater from Ash Pond D, Ash Pond E and/or Ash Pond A, B, C complex and/or the subsurface dewatering system (underdrains from Ash Pond D).			

1. A component of the last reissuance process involved a review of outfall locations by DEQ planning staff. Based on this review, Dominion was asked to confirm the outfall coordinates which were provided within the application package. The latitude and longitude in Table 2 above have been updated to reflect Dominion's field verified coordinates which may differ from those found within the permit application. The updated coordinates are also found in Attachment 7.

See Attachment 3 for industrial process wastewater outfall locations.

TABLE 3 – Stormwater Outfall Description

Outfall Number	Drainage Area	Latitude and Longitude <sup>1</sup>
S5**	Approximately 3.9 acres between the Unit 5 cooling towers.	38° 32' 0.2" N 77° 16' 52.7" W
S31	Approximately 0.15 acres from two drop inlets located at the north end of the Unit 5 Cooling Tower B.  *Cooling tower mist is an allowable non-stormwater discharge pursuant to 9VAC25-151-50	38° 32' 9.2" N 77° 16' 47.2" W
S35**	Approximately 0.15 acres from the north end of Unit 5 Cooling Tower B.	38° 32' 10" N 77° 16' 46" W
S36	Approximately 0.11 acres located around the Unit 1 and 2 stacks and the road under the Unit 3 and 4 precipitators.	38° 32' 11.2" N 77° 16' 46" W
S37	Approximately 2.0 acres from the area around the Administration Building (primarily vehicle parking and roof drainage) and the eastern one half of the maintenance shop.	38° 32' 09" N 77° 16' 46" W
S42**	Approximately 6.6 acres from multiple drop inlets located around the perimeter of the Unit 5 boiler and dust collector.	38° 32' 14" N 77° 16' 43.1" W
S49	Approximately 0.15 acres from a drop inlet located in the drainage area east of the Unit 5 boiler and north of the oil dock foam house.	38° 32' 17" N 77° 16' 40.6" W
S61**	Approximately 2.8 acres from the main entrance way to the plant, the gravel area west of the old combustion turbine buildings, a portion of the roadway leading from the old combustion turbines to the northwest end of the 115 kV switchyard, grassy area and railway located west of the 115 kV switchyard, and the west end of the maintenance shop.	38° 32' 13.5" N 77° 17' 00" W
S77	Approximately 0.14 acres from the area surrounding the eastern edge of the No. 6 fuel oil pipe bench leading north to the Unit 5 transfer pump house.	38° 32' 20.7" N 77° 16' 37.3" W
S78	Approximately 0.61 acres that drains the exterior berm of the heavy oil tanks containment via a concrete flume.	38° 32' 25" N 77° 16' 36.1" W

TABLE 3 – Stormwater Outfall Description (Continued)

Outfall Number	Drainage Area	Latitude and Longitude <sup>1</sup>
S79	Approximately 0.56 acres that drains the exterior berm of the heavy oil tanks containment via a concrete flume.	38° 32' 27.5" N 77° 16' 35.5" W
S80	Approximately 0.36 acres that drains the exterior berm of the heavy oil tanks containment via a concrete flume.	38° 32' 31.6" N 77° 16' 35.1" W
S86	Approximately 34.6 acres from drainage ditches on both sides of the railroad and sheet flow from the west side of the 230 kV switchyard, all of the Measurement and Regulator (M&R) station, west of the light oil containment tanks, parking lot near old combustion turbines, and the main entrance.	38° 31' 53.5" N 77° 17' 5.5" W
S94	Approximately 0.23 acres that drains the exterior berm of the heavy oil tanks containment via a concrete flume.	38° 32' 35" N 77° 16' 34.7" W
S95	Approximately 2.6 acres consisting of multiple ditches and graded surfaces at the north end of the Station.	38° 32' 35" N 77° 16' 34.7" W
S107	Stormwater from the base area of the impoundment of Ash Pond D. Outfall 010 may be re-designated as a stormwater only outfall in accordance with Part I.F.23.	38° 32' 48.9" N 77° 17' 10.8" W
S108	Approximately 0.76 acres from the area south of Ash Pond E located near the construction entrance at the point of convergence for runoff from a Virginia Department of Transportation (VDOT) culvert and the culverts containing the station's former ash sluice lines.	38° 32' 52" N 77° 17' 21" W

1. A component of the reissuance process involved a review of outfall locations by DEQ planning staff. Based on this review, Dominion was asked to confirm the outfall coordinates which were provided within the application package. The latitude and longitude in Table 3 above have been updated to reflect Dominion's field verified coordinates which may differ from those found within the permit application. The updated coordinates are also found in Attachment 7.

The following industrially influenced stormwater outfalls have been deemed representative:

\*\* Outfall S5 is deemed representative of Outfall S31 and S35

\*\* Outfall S42 is deemed representative of Outfalls S49 and S77

\*\* Outfall S61 is deemed representative of Outfalls S36 and S37

**11. Solids Generation and Management:**

The Dominion – Possum Point Power Station is an existing natural gas and oil fired steam electric generating station that does not treat domestic sewage and does not produce sewage sludge.

The facility has a permanent repository, Ash Pond D, for dredge spoil material and residuals related to the operation and maintenance of the Possum Point Power Station. Additionally, Ash Pond D may be used as a repository for dredge spoil material that is not related to operations at the Station provided the material originated from the Potomac River, Quantico Creek or public water bodies in the Quantico Creek watershed meeting the definition of State waters in Virginia.

Ash Pond D is a lined structure that was placed into service in 1989. The pond has a surface area of seventy-two acres, a maximum depth of 120 feet, and a design capacity of over one billion gallons. Please see Section 24.k of the Fact Sheet for further discussion pertaining to solids management.

Table 4 below provides a detailed description of dredge spoil material and residuals disposal in Ash Pond D.

TABLE 4 – Dredge Spoil Material and Residuals Disposal <sup>1</sup>		
Description	Estimated Volume (yd <sup>3</sup> )	Frequency
Filter Cake – from water treatment unit for Unit 6	50	Weekly <sup>2</sup>
Dredge spoils and soils from the Possum Point site	50	Twice a year
Dredge spoils from the Quantico Creek watershed	50	Once a year
Solids from treatment ponds and stormwater management facilities	100	Once a year
Cooling tower basin sludge	200	Once a year
Solids from station floor drains, lift stations, and sumps	100	Once a year

1. Estimated volumes do not include potential special projects such as coal combustion byproducts in former ash ponds A, B, and C and spoils from Potomac River channel dredging.
2. Weekly when Unit 6 is operating; expected annual volume is approximately 850 cubic yards.

**12. Other Discharges and Monitoring Stations in Vicinity of Possum Point Discharge Locations - Virginia Waters: 001/002, 003, 004, 005, 010, S5, S61, and S86**

The facilities and monitoring stations listed below either discharge to or are located within the waterbody VAN-A26E.

TABLE 5	
1aQUA000.43	DEQ special study monitoring station located in the tidal portion of Quantico Creek approximately 1.7 miles downstream of Outfall 005 and 100 yards upstream of the railroad bridge
1aQUA001.00	DEQ fish tissue monitoring station located approximately 0.7 miles upstream of the railroad bridge
1aQUA001.09	DEQ special study monitoring station located approximately 0.75 rivermiles upstream of the railroad bridge
1aQUA001.81	DEQ special study monitoring station located downstream for the unnamed tributary to Quantico Creek into which Outfall 005 (Ash Pond E) discharges.
1aQUA002.38	DEQ special study monitoring station located in the upper Quantico Creek embayment.
1aQUA004.20	DEQ special study monitoring station located in the free-flowing portion of Quantico Creek near Route 1.
1aQUA004.88	DEQ special study monitoring station located in the free-flowing portion of Quantico Creek near Van Buren Road.
VA0002151	U.S. Marine Corps Base Quantico – NREAB Industrial (Chopawamsic Creek)
VA0002151	U.S. Marine Corps Base Quantico – NREAB Industrial (Potomac River)
VA0002151	U.S. Marine Corps Base Quantico – NREAB Industrial (Potomac River, UT)
VAR051039	NuStar Terminals (Potomac River)
VAR051065	Whitehurst Transport, Incorporated (Quantico Creek)
There are no public water supply intakes within a five mile radius of any of the outfalls listed in Table 2 and Table 3.	

**13. Material Storage:**

Material storage information was provided as a component of the reissuance package.

See Attachment 4 for a bulk chemical list.

See Attachment 5 for bulk chemical storage locations.

**14. Site Inspection:**

Performed by Susan Mackert and Bryant Thomas on February 17, 2012, in support of the 2013 permit reissuance. The site visit confirms that the information provided in the facility's permit reapplication package dated April 5, 2012, and received April 10, 2012, is accurate and representative of actual site conditions. The site visit memo can be found as Attachment 6.

**15. Receiving Stream Water Quality and Water Quality Standards:****a) Ambient Water Quality Data**

- 1) Outfalls 001/002, 003, S61 and S107 discharge into a portion of tidal Quantico Creek. The following is the water quality summary for this portion of Quantico Creek, as taken from the Draft 2012 Integrated Assessment\*:

DEQ fish tissue monitoring station 1aQUA001.00 located approximately 0.7 miles upstream of the railroad bridge.

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, Polychlorinated Biphenyl (PCB) fish consumption advisory and fish tissue monitoring. A PCB Total Maximum Daily Load (TMDL) for the tidal Potomac River watershed has been completed and approved.

The submerged aquatic vegetation data is assessed as fully supporting the aquatic life use. For the open water aquatic life subuse; the thirty day mean is acceptable, however, the seven day mean and instantaneous levels have not been assessed.

The recreation and wildlife uses were not assessed.

Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use. Results from the estuarine bioassessment, sediment chemistry analysis (elevated nickel levels), and sediment bioassay for estuarine waters were all factors for this determination. Station 1aQUA001.09, approximately 0.75 rivermiles above the railroad bridge, was sampled in 2001 for the Coastal 2000 program (part of the estuarine probabilistic monitoring program).

- 2) Outfalls 004, S5 and S86 discharge into the downstream most segment of tidal Quantico Creek. The following is the water quality summary for this portion of Quantico Creek, as taken from the Draft 2012 Integrated Assessment\*:

DEQ ambient monitoring station 1aQUA000.43 located in the tidal portion of Quantico Creek, approximately 1.7 miles downstream of the outfall and located 100 yards upstream of the railroad bridge.

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. A PCB TMDL for the tidal Potomac River watershed has been completed and approved.

The aquatic life use is fully supporting. The submerged aquatic vegetation data is assessed as fully supporting the aquatic life use. For the open water aquatic life subuse; the thirty day mean is acceptable, however, the seven day mean and instantaneous levels have not been assessed.

The recreation and wildlife uses are fully supporting.

- 3) Outfalls 005 and 010 discharge to unnamed tributaries to Quantico Creek that have not been monitored. The nearest downstream DEQ regular ambient monitoring station is 1aQUA000.43, which is located in the tidal portion of Quantico Creek, approximately 1.7 miles downstream of the outfalls and located 100 yards upstream of the railroad bridge. Discharge from these outfalls flows downstream into the tidal segment of Quantico Creek described above in Section 15.a.1 of the Fact Sheet, then into the tidal segment described above in Section 15.a.2 of the Fact Sheet.
- 4) Outfalls 007, 008, 009, S31, S36, S37, S42, S49, S77, S78, S79, S80, S94 and S95 discharge into the tidal freshwater Potomac River. DEQ does not conduct ambient monitoring on the Potomac River, as this portion of the river falls under the jurisdiction of the state of Maryland. The following information is found in Maryland's Draft Water Quality Assessment 2012 Integrated Report:

The Upper Potomac River Tidal Fresh is listed as impaired for the open-water fish and shellfish subcategory, and for the seasonal migratory fish spawning and nursery subcategory of the aquatic life use due to total nitrogen and total phosphorus. A TMDL has been completed for the Chesapeake Bay watershed.

\*Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently being finalized and prepared for release.

The full planning statement is found as Attachment 7.

b) 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 6

**Impairment Information in VA Draft 2012 Integrated Report\***

Waterbody Name	Impaired Use	Cause	TMDL Completed	WLA	Basis for WLA	TMDL Schedule
Quantico Creek	Aquatic Life	Estuarine Bioassessments	No	N/A	N/A	2018
		Sediment Bioassays for Estuarine and Marine Waters	No	N/A	N/A	2018
	Fish Consumption	PCBs	Tidal Potomac PCB TMDL 10/31/2007	None	---	N/A

**Impairment Information in MD Draft 2012 Integrated Report**

Waterbody Name	Impaired Use	Cause	TMDL Completed	WLA	Basis for WLA	TMDL Schedule
Potomac River	Open-Water Fish and Shellfish	Total Nitrogen and Total Phosphorus	There is a completed TMDL for the aquatic life use impairment for the Chesapeake Bay.			
	Seasonal Migratory Fish Spawning and Nursery					

\*Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently being finalized and prepared for release.

c) Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections.

*Quantico Creek and UTs to Quantico Creek*

Quantico Creek and tidally influenced portions of the unnamed tributaries to Quantico Creek are located within Section 6 of the Potomac River Basin, and are classified as Class II waters. Class II tidal waters in the Chesapeake Bay and its tidal tributaries must meet dissolved oxygen concentrations as specified in 9VAC25-260-185 and maintain a pH of 6.0-9.0 standard units (S.U.) as specified in 9VAC25-260-50. In the Northern Virginia area, Class II waters must meet the Migratory Fish Spawning and Nursery Designated Use from February 1 through May 31. For the remainder of the year, these tidal waters must meet the Open Water use. The applicable dissolved oxygen concentrations are presented in Attachment 8. Class III, free-flowing waters are to achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

*Potomac River*

The mainstem of the Potomac River is considered Maryland waters. The receiving stream, per the Maryland Water Quality Criteria, has been designated as Use II water. The use goals include the support of estuarine and marine aquatic life and shellfish harvesting. The dissolved oxygen (D.O.) may not be less than 5.0 mg/L at any time and a pH of 6.5 – 8.5 standard units (S.U.) must be maintained.

d) Virginia Water Quality Standards

## 1) Existing Permit

Ammonia:

The freshwater, aquatic life Water Quality Criteria for Ammonia are dependent on the instream and/or effluent temperature and pH. Agency guidance uses the 90<sup>th</sup> percentile temperature and pH values because they best represent the critical design conditions of the receiving stream.

With the last reissuance, pH and temperature data from the tidal portion of Neabsco Creek (1ANEA000.57) were used as Neabsco Creek has similar characteristics to the tidal portion of Quantico Creek. It was staff's opinion that the data contained a sampling bias since most ambient samples were collected between 10 a.m. and 2 p.m. This time period is the period of highest photosynthetic activity in a shallow, open embayment such as the mouth of Neabsco Creek. During peak photosynthetic activity, the pH rises as carbon dioxide is taken up by the green autotrophic organisms, i.e. algae, present in the embayment (*Textbook of Limnology*, 3<sup>rd</sup> edition, G. Cole). Because of this sampling bias, staff used the 50<sup>th</sup> percentile pH and temperature values rather than the recommended 90<sup>th</sup> percentile temperature and pH values for the calculation of the ammonia as nitrogen Water Quality Criteria. These values are shown below in Table 7.

TABLE 7 – Instream 50 <sup>th</sup> Percentile Derivations (2007)	
50 <sup>th</sup> percentile pH	50 <sup>th</sup> percentile temperature
8.2 S.U.	18°C

A new ambient monitoring station (1aQUA000.43) was installed in the tidal portion of Quantico Creek in March 2007. The use of data from this monitoring station is more appropriate given Outfall 004 and Outfall 005, for which ammonia criteria are being developed, discharge to Quantico Creek and an unnamed tributary to Quantico Creek, respectively. As such, staff has reviewed pH and temperature data from this monitoring station for the time period of March 2007 – July 2012 (Attachment 9b). Because ample data exists for the receiving stream it is staff's best professional judgement that the 90<sup>th</sup> percentile temperature and pH values be used as they best represent the critical design conditions of the receiving stream. The values are shown below in Table 8 were used to derive the criteria in Attachment 9a.

TABLE 8 – Instream 90 <sup>th</sup> Percentile Derivations (2012)	
90 <sup>th</sup> percentile pH	90 <sup>th</sup> percentile temperature
8.1 S.U.	28°C

When instream temperature and pH data are available for use, staff also utilizes effluent pH and temperature data to establish the ammonia water quality standard to account for mixing in receiving waters. Of the four outfalls with discharges to Virginia state waters, Outfall 005 was selected for use as representative of all outfalls with regard to water quality criteria derivation. Outfall 005 was selected because metals criteria need to be evaluated for this discharge. The 90th percentile pH was derived from Outfall 005 DMR submissions dated April 2009 to May 2012 and was determined to be 8.6 S.U (Attachment 9b). Because the facility is not required to monitor temperature at this outfall, a default value of 25°C was used. The ammonia water quality standards calculations are shown in Attachment 9a.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream and/or effluent hardness (expressed as mg/L calcium carbonate). When dilution is applied to the discharge, the hardness of both the receiving stream and the effluent are considered. When there is no dilution applied, only the hardness of the effluent is considered as the criteria apply at the 'end-of-pipe'. The average hardness of the receiving stream, Quantico Creek, is 46 mg/L CaCO<sub>3</sub>.

The hardness-dependent metals criteria shown in Attachment 9a are based on the values above.

2) Modified Permit – Outfall 005, Outfall 010 and Internal Outfall 503

Ammonia:

As noted above, during the reissuance of the existing permit staff utilized pH and temperature data from ambient monitoring station 1aQUA000.43 located in the tidal portion of Quantico Creek. It is staff's best professional judgement that the 90<sup>th</sup> percentile temperature and pH values determined during the 2013 reissuance be carried forward to determine the water quality criteria for Internal Outfall 503 as they best represent the critical design conditions of the receiving stream. As such, the 90<sup>th</sup> percentile pH of 8.1 S.U. and a 90<sup>th</sup> percentile temperature value of 28°C shall be used.

When instream temperature and pH data are available for use, staff also utilizes effluent pH and temperature data to establish the ammonia water quality standard to account for mixing in receiving waters. Staff utilized data from the modification application for blended ash dewatering and contact waters collected in May 2015. The 90th percentile pH was determined to be 7.9 S.U (Attachment 10b). Because the data collected in May does not reflect seasonality, it is staff's best professional judgement that the 90<sup>th</sup> percentile temperature for the effluent be set equal to that of the instream 90<sup>th</sup> percentile temperature. As such, a value of 28°C was used. The ammonia water quality standards calculations are shown in Attachment 10a.

Metals:

As noted above, during the reissuance of the permit staff utilized the average hardness, 46 mg/L, for Quantico Creek. It is staff's best professional judgement that the average hardness used during the 2013 reissuance is representative of this receiving stream and will be carried forward to determine the water quality criteria for Internal Outfall 503 where mixing is applied in the computations. An average hardness of 100 mg/L CaCO<sub>3</sub> was applied to the dewatering water from Ash Pond D as a conservative value in computations for Outfall 005. The average hardness of 61 mg/L CaCO<sub>3</sub> was applied to the discharge from Outfall 010 based on groundwater monitoring data.

The hardness-dependent metals criteria shown in Attachment 10a are based on the values above.

Additionally, the background concentrations shown in Table 9 below were utilized to derive the criteria shown in Attachment 10a. Three ambient water quality stations, IAQUA000.43, IAQUA001.28, and IAQUA002.38, were sampled by DEQ on June 25, 2015. All samples were collected from a low slack tide. For purposes of background calculations, the sample collected near the mouth of Quantico Creek was not considered as this is downstream from the expected discharge location and more likely influenced by the Potomac River. While not utilized in the reissuance of the permit in 2013, background concentrations were included with this modification. The use of background concentrations is appropriate with this modification as the samples collected on June 25, 2015, were not influenced by the discharge from Outfall 005 which had not discharged since May 9, 2015.

TABLE 9 – Background Values Determined from June 2015 Metals Sampling	
Parameter Name (Reporting Units)	Background Value <sup>1</sup>
Arsenic, Dissolved (µg/L as As)	1.61
Cadmium, Dissolved (µg/L as Cd)	0
Chromium, Dissolved (µg/L as Cr)	0.36
Copper, Dissolved (µg/L as Cu)	1.98
Lead, Dissolved (µg/L as Pb)	0.24
Mercury-TL, Unfiltered Water (ng/L) <sup>2</sup>	1.00
Nickel, Dissolved (µg/L as Ni)	1.14
Selenium, Dissolved (µg/L as Se) <sup>3</sup>	0.49
Silver, Dissolved (µg/L as Ag)	0
Zinc, Dissolved (µg/L as Zn)	0.85

<sup>1</sup>Background values were determined for the two samples collected using the following guidelines:

- If both reported values were quantifiable, then the arithmetic average was determined.
- If both reported values were less than detection, the background is considered zero.
- If one of the reported values was quantifiable and one was non-detect or above detection but below quantification, either the detection limit or the quantification limit was used in computing the arithmetic average.

<sup>2</sup>Data for mercury, while in the total recoverable form, was utilized due to its availability and as a conservative measure.

<sup>3</sup>Data for selenium, while in the dissolved form, was utilized due to its availability with the ratio of total recoverable to dissolved assumed to be 1:1.

e) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia.

1) *Quantico Creek and UTs to Quantico Creek*

Quantico Creek and the unnamed tributaries to Quantico Creek are located within Section 6 of the Potomac River Basin. This section has been designated with a special standard of “b”.

Special Standard “b” (Potomac Embayment Standards) established effluent standards for all sewage plants discharging into Potomac River embayments and for expansions of existing plants discharging into non-tidal tributaries of these embayments. 9VAC25-415, Policy for the Potomac Embayments controls point source discharges of conventional pollutants into the Virginia embayment waters of the Potomac River, and their tributaries, from the fall line at Chain Bridge in Arlington County to the Route 301 bridge in King George County. The Potomac Embayment Standards are not applied to the facility’s discharges since the discharges do not contain the pollutants of concern in appreciable amounts.

2) *Potomac River*

The mainstem of the Potomac River is considered Maryland waters. The receiving stream, per the Maryland Water Quality Criteria, has been designated as Use II water. The use goals include the support of estuarine and marine aquatic life and shellfish harvesting.

f) Threatened or Endangered Species

The Virginia Department of Game and Inland Fisheries (DGIF) Fish and Wildlife Information System Database was searched on June 5, 2012, for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Atlantic Sturgeon, Brook Floater, Peregrine Falcon, Upland Sandpiper, Loggerhead Shrike, Henslow's Sparrow, Bald Eagle, and Migrant Loggerhead Shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

The receiving streams are within a reach identified as having an Anadromous Fish Use. It is staff's best professional judgment that the proposed limits are protective of this use.

g) Maryland Water Quality Standards

The mainstem of the Potomac River is considered Maryland waters. Outfalls 007, 008, and 009 discharge to the Potomac River, thus having the potential to impact Maryland waters. Staff has reviewed Title 26, Subtitle 08 of the Code of Maryland Regulations (Maryland Water Quality Standards) and believes that the effluent limitations established in this permit will comply with Maryland's water quality standards at the discharge points to the Potomac River.

**16. Antidegradation (9VAC25-260-30):**

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

All receiving streams have been classified as Tier 1 as effluent limits were established to meet the Water Quality Standards (WQS), because of the highly developed receiving stream watersheds in Prince William County (Quantico Creek) and the District of Columbia metropolitan area (Potomac River), and the water quality impairment listed for the tidal fresh water Potomac River. The permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving streams, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

**17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:**

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Pursuant to DEQ Guidance Memo 00-2011, there are two recommended approaches for calculating wasteload allocations and addressing antidegradation for discharges in tidal waters. One approach is to utilize fresh water flow frequencies and the other is to utilize tidal dilution factors. For purposes of this reissuance, the WLA were calculated using the tidal dilution factor method.

a) Effluent Screening:

The discharges from Outfalls 004, 005, 010, 201, 202, 501, 502 and 503, are covered by Federal Effluent Guidelines established in 40 CFR – Part 423. This regulation was recently updated with a publication date of November 3, 2015 and an effective date January 4, 2016. The updated guidelines are applied to the discharges addressed by this permit modification; the existing guidelines are implemented through the current effluent limitations established in the permit that are not part of the permit modification. When applicable, both the water

quality based limits and Federal Effluent Guideline requirements were compared for these outfalls. The most stringent limitation was used as the basis for the final limit. See Section 17.e of the Fact Sheet for additional discussion on the applicable Federal Effluent Guidelines.

Effluent data obtained from the permit application and Discharge Monitoring Report (DMR) forms from April 2009 through March 2012 has been reviewed and determined to be suitable for evaluation. The following pollutants require a wasteload allocation analysis: Total Residual Chlorine and Dissolved Nickel.

b) Water Quality Wasteload Allocations (WQWLAs):

Quantico Creek and the Potomac River are tidally influenced receiving streams. The unnamed tributaries to Quantico Creek may have tidal influence under certain flow and storm conditions. However, as a conservative measure, tidal dilutions are not applied to these outfalls and all critical flows are assumed to be zero. In accordance with agency guidance for tidal receiving waters, the acute wasteload allocations are established by multiplying the acute water quality criteria by a factor of 2 unless there is site specific dilution data available. The two times factor is derived from acute criteria being defined as one half of the final acute value (FAV) for a specific toxic pollutant. The FAV is determined from exposure of the specific toxicant to a variety of aquatic species, and is based on the level of a chemical or mixture of chemicals that does not allow the mortality, or other specified response, of aquatic organisms. These criteria represent maximum pollutant concentration values, which when exceeded, would cause acute effects on aquatic life in a short time period. For chronic wasteload allocations a dilution of 50 is used unless there is site specific dilution data available. The above tidal WQWLA determinations are consistent with the instructions found within DEQ Guidance Memo 00-2011.

With the last permit reissuance, the facility was required to conduct a new thermal mixing zone study. It was staff's best professional judgement that due to the retirement of Units 1 and 2 and the addition of Unit 6, operational changes at the Station warranted re-evaluation of the existing mixing zone boundaries from those approved in the mid-1980s study. In response to the permit requirement, the permittee conducted a detailed analysis of the mixing zone conditions and re-evaluated the accuracy of the mixing zone dimensions that were previously developed. The re-evaluation study plan was submitted to DEQ in October 2008, with the final thermal mixing zone modeling report submitted in October 2011. Statistical analysis of the positions of the thermal plume during extreme summer and winter simulations indicates that ninety-nine (99) percent of the time the plume would remain within about 657 and 507 acres, respectively, in Quantico Creek and a part of the Potomac River. The results of the re-evaluation do not differ significantly from those established in the mid-1980s study. Additionally, based upon temperature data collected, there have been no exceedances of the 3°C delta standard in Quantico Creek or the state water quality standard for temperature. Correspondence dated July 9, 2012, from the Virginia Department of Game and Inland Fisheries (DGIF) indicates that fish from Quantico Creek are all within expected ranges and are comparable to those from neighboring creeks. DGIF also indicates that there is no reason to believe there is any impairment to fishery resources in Quantico Creek as a result of the discharge from the Possum Point Power Station. The final thermal mixing zone modeling report is maintained within the Northern Regional Office's files and is found as Attachment 10. The correspondence from DGIF is found as Attachment 11.

Because site specific dilution data were not determined as part of the thermal mixing zone study, a default acute dilution factor of 2:1 and a default chronic dilution factor of 50:1 shall be used (based on DEQ Guidance Memo 00-2011) for the tidally influenced receiving waters. Please refer to the outfall discussions below for the applicability of dilution factors on an outfall-by-outfall basis. Attachment 9a summarizes the wasteload allocation determinations.

1) Outfalls 001/002, 003 and Internal Outfall 503

Outfalls 001/002 and 003 discharge to tidal Quantico Creek. It is staff's best professional judgment that as recommended in agency guidance a dilution factor of 2:1 is appropriate for these outfalls for acute wasteload allocation (WLA<sub>A</sub>) determination.

Due to the shallow depth and confined morphometry of the Quantico Creek embayment and the volume of water being discharged by the Dominion – Possum Point Power Station, it is staff's best professional judgement that a dilution factor of 2:1 is more appropriate than the 50:1 dilution factor recommended in agency guidance for the chronic wasteload allocation (WLA<sub>C</sub>). The factor of two has been used on similar

embayments and has been demonstrated to be a reasonable estimate. As such, a 2:1 mix ratio will be applied in determining the chronic WLA.

The dilution ratio's discussed above will also be applied to limit derivation for Internal Outfall 503 when it discharges through either Outfall 001/002.

2) Outfalls 005 and 010

Outfall 005 is an existing outfall, previously associated as the discharge from Ash Pond E. It discharges to an UT, Quantico Creek. With regard to the dilution ratio applied to the Outfall 005 discharge into the UT to Quantico Creek, the draft permit applied a 2:1 dilution ratio for both the acute and chronic mixing conditions. This mixing ratio has historically been applied to all acute and chronic discharges from the power station to Quantico Creek and the Unnamed Tributary (UT) to Quantico Creek. DEQ staff conducted a site visit on December 16, 2015, to observe the conditions of the UT to Quantico Creek which receives the discharge from Outfall 005. Staff has concluded that sedimentation of Quantico Creek and its tributaries has impacted the influence of tidal action on the UT to Quantico Creek. The culverts that connect the UT to the Quantico Creek embayment were partially clogged thereby reducing the volume and flow available for flushing and dilution in the UT. Additionally, the drainage area of the UT is approximately 1.7 square miles, which is insufficient to provide substantial flow volume for dilution under critical flow conditions. Based on staff observations, no dilution will be applied to the discharge from Outfall 005 in establishing either the acute wasteload allocation or the chronic wasteload allocation.

It should be noted that when Internal Outfall 503 is routed through Outfall 005 for discharge, no dilution is applied in establishing the acute and chronic wasteload allocations.

Outfall 010 is newly identified and authorized in the proposed permit. No dilution is applied to Outfall 010 in establishing effluent limits. Outfall 010 does not discharge directly into the Quantico Creek tidal embayment. Rather, the discharge is into a marsh area. After the point of discharge, the effluent creates a small channel, now designated as an unnamed tributary to Quantico Creek, which flows approximately 500 feet prior to reaching Quantico Creek. While the receiving stream may be tidally influenced under certain conditions, and is likely inundated during storm events, there shall be no dilution applied to the Outfall 010 in consideration of critical flow conditions. Accordingly, there is no dilution applied in the computation of the acute and chronic wasteload allocations for Outfall 010.

3) Outfalls 004, 007, 008 and 009

Due to the fact Outfall 004 discharges into tidal estuary waters in close proximity to the main stem of the Potomac River, and Outfalls 007, 008, and 009 discharge directly to the main stem of the Potomac River, the dilution factor of 2:1 recommended in agency guidance shall be used to calculate the acute wasteload allocation ( $WLA_A$ ) for these outfalls. The dilution factor of 50:1 recommended in agency guidance shall be used for the determining the chronic wasteload allocation ( $WLA_C$ ) for these outfalls. Note that the dilution factor applied for development of effluent limits for Internal Outfall 503 when discharging to Outfall 004 applies a conservative mix ratio of 2:1 for the  $WLA_C$  in order to be consistent with limits development for this internal outfall.

c) Effluent Limitations and Monitoring

This section discusses the development of effluent limitations and monitoring for all parameters except those specifically associated as pollutants of concern with coal combustion residuals. The establishment of effluent limit and monitoring requirements for these parameters is discussed in Section 18 of the Fact Sheet. The following Federal Effluent Guideline abbreviations are used within the discussions in Section 17.c and Sections 21.a through 21.n of the Fact Sheet:

Best Available Technology – BAT

Best Practicable Technology – BPT

New Source Performance Standards – NSPS

## 1) Outfall 001/002

*Heat Rejection:*

Heat Rejection is defined as the rate of heat transfer from a unit's condenser to its circulating water system. It is calculated directly by conservation of mass and energy either across the circulating water system (condenser tube side) or from the turbine exhaust to the hotwell (condenser shell side). Heat Rejection is measured in BTU/Hour.

Because there have been no operational changes at the Possum Point Power Station which could impact the thermal component of the discharge from this outfall, no change to the heat rejection limit is proposed with this reissuance. As such, the previously established heat rejection limit of  $5.58 \times 10^8$  BTU/hr shall be carried forward with this reissuance. The continuous monitoring frequency shall be carried forward.

*Intake Temperature:*

A Schedule of Compliance was included with the previous reissuance to implement temperature monitoring at the intake structure. The Schedule of Compliance was completed on October 23, 2008, and as such will be removed with this reissuance.

It is staff's best professional judgement that intake temperature monitoring continue with this reissuance. The monitoring frequency of once per day (1/D) shall be carried forward.

*Discharge Temperature:*

A Schedule of Compliance was included with the previous reissuance to implement temperature monitoring of the effluent. The Schedule of Compliance was completed on October 23, 2008, and as such will be removed with this reissuance.

It is staff's best professional judgement that effluent temperature monitoring should continue with this reissuance. The monitoring frequency of once per day (1/D) shall be carried forward.

*pH:*

pH limitations are set at the water quality criteria. As such, the previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of once per month (1/M) shall be carried forward.

*Total Residual Chlorine (TRC):*

Federal Effluent Guidelines (40 CFR 423.13(b)(1) – Best Available Technology) state that for any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water times the maximum concentration of 0.2 mg/L. At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.13(b)(1). It is staff's best professional judgement that applying the maximum concentration of 0.2 mg/L to the discharge is appropriate and will allow comparison to the Virginia WQS for TRC which are established in concentration units.

In accordance with current DEQ guidance (Memo 00-2011), staff used a default data point of 0.2 mg/L and the most limiting allocations to derive the water quality based limits which were compared against the Federal Effluent Guidelines. The resulting water quality based derivation indicated a water quality based daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L is needed (Attachment 13a). The water quality based limits are more stringent than the Federal Effluent Guidelines and as such, the water quality based limits shall be applied. These limits are consistent with the previous reissuance which also included a water quality based daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L. The daily maximum TRC limit of 0.032 mg/L and monthly average TRC limit of 0.022 mg/L shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall also be carried forward. Monitoring is only required when the facility is chlorinating.

*Free Available Chlorine:*

In accordance with the Federal Effluent Guidelines found in 40 CFR 423.12(b)(6) and 40 CFR 423.12(b)(7) – Best Practicable Technology and 40 CFR 423.13(d)(1) – Best Available Technology, free available chlorine limitations are applicable to discharges that contain once through cooling water and cooling tower blowdown. The discharge from Outfall 001/002 contains both once through cooling water and cooling tower blowdown flow. Because free available chlorine limits are applied at internal Outfalls 201 and 202 for the cooling tower blowdown, limits only need to be considered for the once through cooling water component of the discharge.

The sum of free available chlorine and combined available chlorine form total residual chlorine. If established total residual chlorine limits are met, it is assumed free available chlorine will be equivalent to or less than the total residual chlorine. As discussed above, total residual chlorine limitations (daily maximum of 0.032 mg/L and monthly average of 0.022 mg/L) were developed based on the once through cooling water component of the discharge from Outfall 001/002. Free available chlorine associated with the once through cooling water component would be expected to be equivalent to or less than the established total residual chlorine limitations and therefore, comply with the Federal Effluent Guideline (40 CFR 423.12(b)(6)) limitations (daily maximum of 0.5 mg/L and a monthly average of 0.2 mg/L). Therefore, it is staff's best professional judgement that free available chlorine limitations are not warranted given the total residual chlorine limitation is more stringent.

## 2) Outfall 003

*Heat Rejection:*

Because there have been no operational changes at the Possum Point Power Station which could impact the thermal component of the discharge from this outfall, no change to the heat rejection limit is proposed with this reissuance. As such, the previously established heat rejection limit of  $1.14 \times 10^9$  BTU/hr shall be carried forward with this reissuance. The continuous monitoring frequency shall be carried forward.

*Discharge Temperature:*

A Schedule of Compliance was included with the previous reissuance to implement temperature monitoring of the effluent. The Schedule of Compliance was completed on October 23, 2008, and as such will be removed with this reissuance.

It is staff's best professional judgement that effluent temperature monitoring continue with this reissuance. The monitoring frequency of once per day (1/W) shall be carried forward.

*pH:*

pH limitations are set at the water quality criteria. As such, the previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of once per month (1/M) shall be carried forward.

*Total Residual Chlorine (TRC):*

Federal Effluent Guidelines (40 CFR 423.13(b)(1)) state that the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water times the maximum concentration of 0.2 mg/L. At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.13(g))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.13(b)(1). It is staff's best professional judgement that applying the maximum concentration of 0.2 mg/L to the discharge is appropriate and will allow comparison to the Virginia WQS for TRC which are established in concentration units.

In accordance with current DEQ guidance (Memo 00-2011), staff used a default data point of 0.2 mg/L and the most limiting allocations to derive the water quality based limits which were compared against the Federal Effluent Guidelines. The resulting water quality based derivation indicated a water quality based daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L is needed (Attachment 13a). The water quality based limits are more stringent than the Federal Effluent Guidelines and as such, the water quality based limits shall be applied. These limits are consistent with the previous reissuance which also included a water quality based daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L. As such, the daily maximum TRC limit of 0.032 mg/L and monthly average TRC limit of 0.022 mg/L shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall also be carried forward. Monitoring is only required when the facility is chlorinating.

*Free Available Chlorine:*

The previous reissuance of this permit did not include free available chlorine limitations. In accordance with the Federal Effluent Guidelines found in 40 CFR 423.12(b)(6) – Best Practicable Technology, free available chlorine limitations are applicable to discharges that contain once through cooling water. The discharge from Outfall 003 contains once through cooling water.

The sum of free available chlorine and combined available chlorine form total residual chlorine. If established total residual chlorine limits are met, it is assumed free available chlorine will be equivalent to or less than the total residual chlorine. As discussed above, total residual chlorine limitations (daily maximum of 0.032 mg/L and monthly average of 0.022 mg/L) were developed based on the once through cooling water component of the discharge from Outfall 003. Free available chlorine associated with the once through cooling water component would be expected to be equivalent to or less than the established total residual chlorine limitations and therefore, comply with the Federal Effluent Guideline (40 CFR 423.12(b)(6)) limitations (daily maximum of 0.5 mg/L and a monthly average of 0.2 mg/L). As such, it is staff's best professional judgement that free available chlorine limitations are not warranted given the total residual chlorine limitation is more stringent.

*Dissolved Copper:*

During the previous reissuance of the permit, data analysis indicated the need for a copper limit of 16 µg/L. This limit was derived based on one datum point and it was staff's best professional judgement to implement a copper monitoring program in lieu of a limit. The monitoring program was instituted to compile additional data to assist in a later determination of whether a copper limit was warranted.

A review of copper effluent data from April 2009 – June 2012 (Attachment 13b) and data submitted with the permit application indicates all data were below the QL and as such no effluent limitation is warranted. It is staff's best professional judgement that copper monitoring at Outfall 003 is no longer necessary and the requirement for monitoring shall be removed with this reissuance.

### 3) Outfall 004

*Heat Rejection:*

Because there have been no operational changes at the Possum Point Power Station which could impact the thermal component of the discharge from this outfall, no change to the heat rejection limit is proposed with this reissuance. As such, the previously established heat rejection limit of  $1.9 \times 10^8$  BTU/hr shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall be carried forward.

*Discharge Temperature:*

A Schedule of Compliance was included with the previous reissuance to implement temperature monitoring of the effluent. The Schedule of Compliance was completed on October 23, 2008, and as such will be removed with this reissuance.

It is staff's best professional judgement that effluent temperature monitoring continue with this reissuance. The monitoring frequency of once per day (1/W) shall be carried forward.

*pH:*

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. and water quality criteria states that pH shall be a minimum value of 6.0 S.U. and a maximum value of 9.0 S.U. Because the pH range is the same for both the Federal Effluent Guidelines and the water quality criteria, the previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall be carried forward.

*Total Residual Chlorine (TRC):*

The Federal Effluent Guidelines for TRC found in 40 CFR 423.13(b)(1) are only applicable to the quantity of pollutants discharged in once through cooling water from each discharge point. The effluent from Outfall 004 does not have a once through cooling water component. As such, the reference to the Federal Effluent Guidelines in the previous permit as a basis for TRC limits for Outfall 004 is not included with this reissuance.

It is staff's best professional judgement that there is reasonable potential for TRC to be present in the discharge from Outfall 004 and that both daily maximum and monthly average TRC limits be continued with this reissuance. In accordance with current DEQ guidance (Memo 00-2011), staff used a default data point of 0.2 mg/L and the most limiting allocations to derive the water quality based limit. The resulting water quality based derivation indicated a daily maximum limit of 0.038 mg/L and a monthly average limit of 0.026 mg/L is needed (Attachment 13a).

During the drafting of this permit it was discovered that the TRC limits derived for the 2007 reissuance, while technically correct, were incorrectly transferred from the Fact Sheet to the permit. The permit lists a daily maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L rather than the daily maximum limit of 0.038 mg/L and the monthly average limit of 0.026 mg/L as derived (Attachment 13a). This reissuance corrects the typographical error associated with the TRC limits at Outfall 004, and as such a daily maximum TRC limit of 0.038 mg/L and a monthly average TRC limit of 0.026 mg/L shall be included with this reissuance. These limitations are also consistent with those derived for the 2012 reissuance of the permit. It is staff's best professional judgement that this revised limit will not create any instream excursion of any applicable State narrative or numerical Water Quality Standard. See Section 18 of the Fact Sheet for further discussion on backsliding.

The monitoring frequency of once per week (1/W) shall be carried forward. Monitoring is only required when the facility is chlorinating.

*Oil and Grease (O&G):*

Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology) state that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the maximum concentration of 20 mg/L and the average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(3). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum O&G limit of 20 mg/L and the monthly average O&G limit of 15 mg/L shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall also be carried forward.

*Total Suspended Solids (TSS):*

Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology) state that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the maximum concentration of 100 mg/L and the average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(3). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum TSS limit of 100 mg/L and the monthly average TSS limit of 30 mg/L shall be carried forward with this reissuance. The monitoring frequency of twice per month (2/M) shall also be carried forward.

*Nutrients (Total Nitrogen, Total Kjeldahl Nitrogen, Nitrate+Nitrite, Ammonia as N, Total Phosphorus):*

Due to the use of chemicals containing both ammonia and phosphorus and continued initiatives to reduce nutrients to the Chesapeake Bay, it is staff's best professional judgement that nutrient monitoring at Outfall 004 continue with this reissuance. Given the discharge is industrial in nature and data thus far demonstrates the discharge is not causing instream issues, the monitoring frequency shall be reduced from quarterly to semi-annually (1/6M).

*Attachment A:*

It is staff's opinion that there is reasonable potential for toxic pollutants to be discharged from Outfall 004. As such, Attachment A monitoring shall be carried forward with this reissuance. Given the compliance history of the facility, the monitoring frequency shall be reduced from an annual basis (1/YR) to once every five years (1/5YR). Monitoring shall be initiated after the start of the third year from the permit's effective date. Using Attachment A as the reporting form, the data shall be submitted with the next application for reissuance, which is due at least 180 days prior to the expiration date of this permit.

**4) Outfall 005 (Interim Configuration)**

As noted in Section 18 of the Fact Sheet, in order to begin closure of the existing ash ponds, all comingled process water that has been pumped to Ash Pond D, as well as stormwater, must be removed. The discharge from Ash Pond D is to be managed through the use of a treatment system designed to address the monitoring and effluent limitations described in this Fact Sheet. The routing of the treated wastewater from Internal Outfall 503 may be released through any one of the following outfalls for discharge to surface waters: Outfall 001/002, Outfall 004, or Outfall 005. This allows the permittee flexibility to possibly route the discharge through different outfalls while ensuring protection of the receiving waters. See Section 17.d.5 of this fact sheet for additional details.

Additionally, it is recognized that during the interim configuration there may be an operational need to store the treated water within a newly constructed unlined holding basin located within the footprint of former Ash Pond E. This holding basin would then discharge through Outfall 005.

As discussed in Section 17.b of this fact sheet, there are different dilution factors applied at Outfall 005 into the UT, Quantico Creek as compared to the other outfalls discharging directly into the tidal embayment. There is no dilution applied in the derivation of effluent limits for Outfall 005.

*pH:*

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. and water quality criteria states that pH shall be a minimum value of 6.0 S.U. and a maximum value of 9.0 S.U. Because the pH range is the same for both the Federal Effluent Guidelines and the water quality criteria, the previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward. The monitoring frequency of three times per week is established with this permit modification.

*Oil and Grease (O&G):*

Federal Effluent Guidelines 40 CFR 423.12(b)(4) - Best Practicable Technology state that that the quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the maximum concentration of 20 mg/L and the average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(4). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum O&G limit of 20 mg/L and the monthly average O&G limit of 15 mg/L shall be carried forward with this reissuance. The monitoring frequency of three times per week is established with this permit modification.

*Total Suspended Solids (TSS):*

Federal Effluent Guidelines 40 CFR 423.12(b)(4) - Best Practicable Technology state that that the quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the maximum concentration of 100 mg/L and the average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(4). It is staff's best professional judgement that applying the maximum

concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum TSS limit of 100 mg/L and a monthly average TSS limit of 30 mg/L shall be implemented with this reissuance. The monitoring frequency of three times per week is established with this permit modification.

See Section 18 for the Fact Sheet for the discussion of effluent limit development for constituents associated with coal combustion residuals.

5) Outfall 007

Historically, this outfall was permitted under a NPDES permit issued by the State of Maryland (MD0066427). With the 2007 reissuance, the outfall was incorporated in the facility's VPDES permit carrying forward Maryland's permit requirement for flow monitoring on a quarterly basis. Monitoring for flow shall be carried forward with this reissuance. The quarterly monitoring frequency (1/3M) shall also be carried forward.

6) Outfall 008

Historically, this outfall was permitted under a NPDES permit issued by the State of Maryland (MD0066427). With the 2007 reissuance, the outfall was incorporated in the facility's VPDES permit carrying forward Maryland's permit requirement for flow monitoring on a quarterly basis. Monitoring for flow shall be carried forward with this reissuance. The quarterly monitoring frequency (1/3M) shall also be carried forward.

7) Outfall 009

This outfall has been added with this reissuance. The discharge from this outfall is identical to that of Outfall 007. As such, it's staff's best professional judgement that monitoring for flow on a quarterly basis (1/3M) be implemented with this reissuance. Please see Section 26 of the Fact Sheet for discussion on this new outfall.

8) Outfall 010 (Dominion S107)

Outfall S107 is currently addressed in the facility's permit as a stormwater outfall not associated with industrial activity. In the December 24, 2014, and October 21, 2015, addendums to the modification request, Dominion has requested to change the permit language associated with stormwater Outfall S107 from a stormwater outfall not associated with industrial activity to a stormwater outfall associated with industrial activity.

The applications submitted with the addendums also state that this outfall is designed to collect groundwater infiltration from Ash Pond D's berm for stabilization. Additionally, DEQ staff observed this outfall discharging in November 2014 absent a storm event. It is staff's best professional judgment that the discharge from this outfall also consists of non-stormwater contributions consisting of groundwater and possibly drainage through the dam, and, therefore, be viewed as a non-stormwater outfall. For this reason Outfall S107 shall be referred to as Outfall 010.

Disposal of coal combustion residuals (CCR) at this facility has historically been accomplished in impoundments located on site, including Ash Pond D. These impoundments include surface waters originating from precipitation, storm water runoff into the impoundments, comingled process wastewaters, and waters used to hydraulically dredge ash from one pond to another. Interstitial, or pore waters, also exist within the bottom residual mass of the impoundment. Due to the potential for contact and exposure to the coal ash material, it is staff's best professional judgement that monitoring and effluent limitations be developed for this outfall.

In addition, 40 CFR Part 423 - Steam Electric Power Generating Point Source, identifies combustion residual leachate as leachate from landfills or surface impoundments containing combustion residuals. Combustion residual leachate includes seepage and/or leakage from a combustion residual landfill or impoundment unit. As such, it is staff's best professional judgement that monitoring and limitations for those parameters associated with combustion residual leachate also be applied to the discharge from Outfall 010. A monitoring frequency of once per month (1/M) shall be implemented.

*pH:*

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. and water quality criteria states that pH shall be a minimum value of 6.0 S.U. and a maximum value of 9.0 S.U. Because the pH range is the same for both the Federal Effluent Guidelines and the water quality criteria, a minimum limit of 6.0 S.U. and a maximum limit of 9.0 S.U. shall be applied. A monitoring frequency of once per month (1/M) shall be implemented.

*Oil and Grease (O&G):*

Federal Effluent Guidelines (40 CFR 423.12(b)(11) - Best Practicable Technology) state that that the quantity of pollutants discharged in flue gas desulfurization wastewater (FGD), flue gas mercury control wastewater, combustion residual leachate, or gasification wastewater shall not exceed the quantity determined by multiplying the flow of the applicable wastewater times the maximum concentration of 20 mg/L and the monthly average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(11). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. A monitoring frequency of once per month (1/M) shall be implemented.

*Total Suspended Solids (TSS):*

Federal Effluent Guidelines (40 CFR 423.12(b)(11) - Best Practicable Technology) state that that the quantity of pollutants discharged in flue gas desulfurization wastewater (FGD), flue gas mercury control wastewater, combustion residual leachate, or gasification wastewater shall not exceed the quantity determined by multiplying the flow of the applicable wastewater times the maximum concentration of 100 mg/L and the monthly average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(11). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. A monitoring frequency of once per month (1/M) shall be implemented.

See Section 18 for the Fact Sheet for the discussion of effluent limit development for constituents associated with coal combustion residuals as well as the potential to remove the process water discharges from Outfall 010 thereby eliminating the applicability of the Federal Effluent Limit guidelines discussed above.

d) Effluent Limitations and Monitoring, Internal Outfalls 201, 202, 501, 502, and 503

1) Internal Outfall 201

*pH:*

Federal Effluent Guidelines (40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. The previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of once per week in which there is a discharge (1/D-W) shall also be carried forward.

*Free Available Chlorine:*

Federal Effluent Guidelines found in 40 CFR 423.12(b)(7) – Best Practicable Technology and 40 CFR 423.13(d)(1) – Best Available Technology, state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 0.5 mg/L and the average concentration of 0.2 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.12(b)(11) and 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation

instead of the mass based limitations specified in paragraphs 423.12(b)(7) and 423.13(d)(1). It is staff's best professional judgement that applying the maximum concentration of 0.5 mg/L and the average concentration of 0.2 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum free chlorine limit of 0.5 mg/L and a monthly average free chlorine limit of 0.2 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per week in which there is a discharge (1/D-W) shall also be carried forward. Monitoring is only required when the facility is chlorinating.

*Total Chromium:*

Federal Effluent Guidelines (40 CFR 423.13(d)(1) – Best Available Technology) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 0.2 mg/L and the average concentration of 0.2 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.13(d)(1). It is staff's best professional judgement that applying the maximum concentration of 0.2 mg/L and the average concentration of 0.2 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum total chromium limit of 0.2 mg/L and a monthly average total chromium limit of 0.2 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

*Total Zinc:*

Federal Effluent Guidelines (40 CFR 423.13(d)(1) – Best Available Technology) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.13(d)(1). It is staff's best professional judgement that applying the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum total zinc limit of 1.0 mg/L and a monthly average total zinc limit of 1.0 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

*126 Priority Pollutants:*

Federal Effluent Guidelines (40 CFR 423.13(d)(1) – Best Available Technology) state that the quantity of pollutants in cooling tower blowdown discharges (Appendix A to Part 423) shall be in non-detectable amounts. As such, the daily maximum and monthly average non-detectable limits shall be carried forward. The monitoring frequency of once per year in which there is a discharge (1/D-Y) shall also be carried forward.

At the permitting authority's discretion (40 CFR 423.13(d)(3)), compliance with the limitations for the 126 priority pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

2) Internal Outfall 202

This outfall falls under the Federal Effluent Guidelines for New Source Performance Standards (40 CFR 423.15) which are applied below.

*pH:*

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.15(a)) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. The previously established minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be carried forward with this reissuance. The monitoring frequency of once per week in which there is a discharge (1/D-W) shall also be carried forward.

*Free Available Chlorine:*

Federal Effluent Guidelines found in 40 CFR 423.15(j)(1) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 0.5 mg/L and the average concentration of 0.2 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.15(m)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraph 423.15(j)(1). It is staff's best professional judgement that applying the maximum concentration of 0.5 mg/L and the average concentration of 0.2 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum free chlorine limit of 0.5 mg/L and a monthly average free chlorine limit of 0.2 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per week in which there is a discharge (1/D-W) shall also be carried forward. Monitoring is only required when the facility is chlorinating.

*Total Chromium:*

Federal Effluent Guidelines (40 CFR 423.15(j)(1)) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 0.2 mg/L and the average concentration of 0.2 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.15(m)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.15(j)(1). It is staff's best professional judgement that applying the maximum concentration of 0.2 mg/L and the average concentration of 0.2 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum total chromium limit of 0.2 mg/L and a monthly average total chromium limit of 0.2 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

*Total Zinc:*

Federal Effluent Guidelines (40 CFR 423.15(j)(1)) state that the quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.15(m)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.15(j)(1). It is staff's best professional judgement that applying the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum total zinc limit of 1.0 mg/L and a monthly average total zinc limit of 1.0 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

*126 Priority Pollutants:*

Federal Effluent Guidelines (40 CFR 423.15(j)(1)) state that the quantity of pollutants in cooling tower blowdown discharges (Appendix A to Part 423) shall be in non-detectable amounts. As such, the daily maximum and monthly average non-detectable limits shall be carried forward. The monitoring frequency of once per year in which there is a discharge (1/D-Y) shall also be carried forward.

At the permitting authority's discretion (40 CFR 423.15(j)(3)), compliance with the limitations for the 126 priority pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

## 3) Internal Outfall 501

*Oil and Grease (O&G):*

Federal Effluent Guidelines (40 CFR 423.12(b)(5) - Best Practicable Technology) state that the quantity of pollutants discharged from metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the maximum concentration of 20 mg/L and the monthly average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(5). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum O&G limit of 20 mg/L and the monthly average O&G limit of 15 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

*Total Suspended Solids (TSS):*

Federal Effluent Guidelines (40 CFR 423.12(b)(5) - Best Practicable Technology) state that the quantity of pollutants discharged from metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the maximum concentration of 100 mg/L and the monthly average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(5). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum TSS limit of 100 mg/L and the monthly average TSS limit of 30 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

*Total Iron:*

Federal Effluent Guidelines (40 CFR 423.12(b)(5) – Best Practicable Technology and 40 CFR 423.13(e) – Best Available Technology) state that the quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.12(b)(11) and 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs 423.12(b)(5) and 423.13(e). It is staff's best professional judgement that applying the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum total iron limit of 1.0 mg/L and the monthly average total iron limit of 1.0 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

*Total Copper:*

Federal Effluent Guidelines (40 CFR 423.12(b)(5) – Best Practicable Technology and 40 CFR 423.13(e) – Best Available Technology) state that the quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the maximum concentration of 1.0 mg/L and the average concentration of 1.0 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines 40 CFR 423.12(b)(11) and 40 CFR 423.13(g)), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs 423.12(b)(5) and 423.13(e). It is staff's best professional judgement that applying the maximum concentration of 1.0 mg/L and the average concentration of 1.0

mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. These limits are the same as those previously established and as such the daily maximum total copper limit of 1.0 mg/L and the monthly average total copper limit of 1.0 mg/L shall be carried forward with this reissuance. The monitoring frequency of once per month in which there is a discharge (1/D-M) shall also be carried forward.

#### 4) Internal Outfall 502

##### *Oil and Grease (O&G):*

The previous reissuance of this permit included Total Petroleum Hydrocarbon (TPH) limitations based upon the assumption the Oily Waste Treatment Basin functions as an oil-water separator. The limits placed in the permit, a maximum of 60 mg/L and a monthly average of 30 mg/L, were consistent with those typically applied to oil-water separator discharges at the time of the 2007 reissuance. In accordance with the Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology), Oil and Grease limitations are applicable to the quantity of pollutants discharged from low volume waste sources. Components of the discharge from Outfall 502 contain auxiliary boiler blowdown and drains, both of which are specifically included in the definition of low volume waste sources. Therefore, it is staff's best professional judgement that oil and grease limitations be implemented with this reissuance and the previously established TPH limitations be removed (see further discussion below in this section pertaining to TPH analysis).

Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology) also state that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the maximum concentration of 20 mg/L and the monthly average concentration of 15 mg/L. At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(3). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the monthly average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum O&G limit of 20 mg/L and a monthly average O&G limit of 15 mg/L shall be implemented with this reissuance. The monitoring frequency of twice per month (2/M) shall be carried forward.

##### *Total Petroleum Hydrocarbons (TPH):*

As discussed within Section 20 of the Fact Sheet, DEQ staff recommended the continued analysis of groundwater associated with the Oily Waste Treatment Basin for TPH. Given the constituent fraction of TPH groups, both Diesel Range Organics and, with this reissuance, Oil Range Organics are to be analyzed. As such, it is staff's best professional judgement that TPH monitoring of the surface water discharge associated with the Oily Waste Treatment Basin continue with this reissuance. A monitoring frequency of twice per month (2/M), without effluent limitation, is proposed for this reissuance.

To provide consistency with groundwater monitoring requirements, monitoring for TPH – Oil Range Organics is also proposed with this reissuance. A monitoring frequency of twice per month (2/M), without effluent limitation, shall be implemented with this reissuance. The permittee shall sample and submit TPH-ORO results at the frequency of twice per month for one year. If all reported results for TPH-ORO do not exceed the QL for TPH (0.50 mg/L), the permittee may submit a written request to DEQ-NRO for a reduction in sampling frequency to one per quarter (1/3M). Please see Section 19.k of the Fact Sheet for additional information.

##### *Total Suspended Solids (TSS):*

The previous reissuance of this permit did not include Total Suspended Solids limitations. In accordance with the Federal Effluent Guidelines found in 40 CFR 423.12(b)(3) - Best Practicable Technology, TSS limitations are applicable to the quantity of pollutants discharged from low volume waste sources. Components of the discharge from Outfall 502 contain auxiliary boiler blowdown and drains, both of which are specifically included in the definition of low volume waste sources. Therefore, it is staff's best professional judgement that TSS limitations be implemented with this reissuance.

Federal Effluent Guidelines (40 CFR 423.12(b)(3) - Best Practicable Technology) state that that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the maximum concentration of 100 mg/L and the monthly average concentration of 30 mg/L. At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(11))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(3). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the monthly average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum TSS limit of 100 mg/L and a monthly average TSS limit of 30 mg/L shall be implemented with this reissuance. A monitoring frequency of twice per month (2/M) shall be implemented.

5) Internal Outfall 503 (Interim)

*pH:*

Federal Effluent Guidelines (40 CFR Part 40 CFR 423.12(b)(1) – Best Practicable Technology) state that all discharges, except once through cooling water shall be within a range of 6.0 S.U. – 9.0 S.U. and water quality criteria states that pH shall be a minimum value of 6.0 S.U. and a maximum value of 9.0 S.U. Because the pH range is the same for both the Federal Effluent Guidelines and the water quality criteria, a minimum limit of 6.0 S.U. and the maximum limit of 9.0 S.U. shall be established with this permit modification. The monitoring frequency of three times per week is established with this permit modification.

*Oil and Grease (O&G):*

Federal Effluent Guidelines 40 CFR 423.12(b)(4) - Best Practicable Technology state that that the quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the maximum concentration of 20 mg/L and the average concentration of 15 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(4). It is staff's best professional judgement that applying the maximum concentration of 20 mg/L and the average concentration of 15 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum O&G limit of 20 mg/L and a monthly average O&G limit of 15 mg/L shall be implemented with this reissuance. The monitoring frequency of three times per week is established with this permit modification.

*Total Suspended Solids (TSS):*

Federal Effluent Guidelines 40 CFR 423.12(b)(4) - Best Practicable Technology state that that the quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the maximum concentration of 100 mg/L and the average concentration of 30 mg/L.

At the permitting authority's discretion (Federal Effluent Guidelines (40 CFR 423.12(b)(12))), the quantity of pollutants allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitation specified in paragraph 423.12(b)(4). It is staff's best professional judgement that applying the maximum concentration of 100 mg/L and the average concentration of 30 mg/L to the discharge is the most conservative approach and will maintain and protect the water quality of the receiving stream. As such, a daily maximum TSS limit of 100 mg/L and a monthly average TSS limit of 30 mg/L shall be implemented with this reissuance. The monitoring frequency of three times per week is established with this permit modification.

See Section 18 for the Fact Sheet for the discussion of effluent limit development for constituents associated with coal combustion residuals.

e) Effluent Limitations, 004, 005, 010, 201, 202, 501, 502, and 503– Federal Effluent Guidelines.

The quantity of pollutants discharged from the outfalls listed above, are also limited by Federal Effluent Guidelines established in 40 CFR – Part 423. Effluent guidelines are technology-based regulations that have been developed by the Environmental Protection Agency (EPA) for a specific category of discharger. These regulations are based on the performance of control and treatment technologies. The effluent limitations for this category of discharger, Steam Electric Power Generating Point Source, have been established using Best Available Technology (BAT), Best Practicable Control Technology (BPT), and New Source Performance Standards (NSPS) guidelines for this type of industry.

When applicable, both water quality based limits and Federal Effluent Guideline requirements were compared for these outfalls. The most stringent limitation was used as the basis for the final limit.

f) Limitations and Monitoring Summary – Effluent and Groundwater

Effluent limitations and monitoring requirements for the facility's outfalls are presented in Section 21a. – Section 20.o of the Fact Sheet. When applicable, both water quality based limits and Federal Effluent Guideline requirements were compared for these outfalls. The most stringent limitation was used as the basis for the final limit.

Groundwater monitoring requirements for the facility's observation wells are presented in Section 20.p – Section 20.r of the Fact Sheet. Any existing groundwater monitoring, corrective action and/or risk assessment plans currently in effect under the facility's permit shall remain in effect until such time as they are superseded by a solid waste permit in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.) See Section 23 of the Fact Sheet for further discussion.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

Effluent limitations are expressed in the form of two significant figures in accordance with DEQ Guidance Memo 06-2016.

**18. Effluent Limits and Monitoring Requirements for Parameters Associated with Coal Combustion Residuals: Outfall 005, Outfall 010 and Internal Outfall 503 (Interim and Final):**Outfall 005 (Interim) and Internal Outfall 503 (Interim)

In order to begin closure of the existing Ash Pond D, all comingled process water that has been pumped to Ash Pond D, as well as stormwater, must be removed. The modification application submitted by Dominion on August 20, 2015, noted that flexibility in the management of process water generated throughout the closure process would be necessary. As a result, the modification application provided a number of options for the handling and discharge of all comingled process water, as well as stormwater. Comingled process water includes ash dewatering water and stormwater in contact with ash, i.e., contact water, from the closure of Ash Ponds A, B, C, D, and E, as well as Internal Outfall 501.

Staff has designated Internal Outfall 503 as the discharge from the treatment system for the dewatering necessary for closure of the coal ash ponds. The period of time associated with the dewatering activities discussed below is considered the interim configuration. The treatment system was discussed in the Conceptual Engineering Report (CER) that was submitted as supporting documentation with the August 20, 2015, permit modification request. Treatment options were outlined by the permittee in the CER as well as the December 2, 2015, memorandum in response to a DEQ request for additional information. Treatment options identified in the CER include settling, filtration and chemical treatment, ion exchange/absorption and/or packed bed biofilters. However, until final effluent limits are established, the permittee is not able to select a final treatment system designed to meet all applicable permit requirements. The permittee will be required to submit a final CER describing the final selection of treatment technology to be employed to meet effluent limits.

There are two phases associated with the dewatering activities supporting closure of the coal ash ponds. The first phase is the initial draw-down of the impounded water currently held in Ash Pond D. This initial dewatering of approximately 150 million gallons is expected to occur over 45-60 days. A maximum daily flow limit of the treatment system is established

at 2.88 millions of gallons per day (MGD), with an average daily flow identified as 2.53 MGD. The second phase of dewatering will occur over the duration of the closure activities expected to be completed in spring 2018. The second phase will provide for treatment and discharge of dewatering water as well as water generated from precipitation events. This is expected to occur at lower flow rates than the initial dewatering activities.

Additionally, the permittee has noted that a cleaned area of Pond E may be used to provide storage and treatment prior to discharge to Outfall 503 during the interim configuration.

Lastly, it should also be noted that an alternate interim configuration for Internal Outfall 503 is also being considered by Dominion. This alternate configuration includes pretreatment, where required, and discharge to the Prince William County Service Authority's (PWCSA) H.L. Mooney Advanced Water Reclamation Facility (VA0025101). This alternate final configuration would be addressed by the PWCSA through the pretreatment program associated with the H.L. Mooney Advanced Water Reclamation Facility.

The conceptual approach to establishing effluent limits and monitoring requirements from the discharge from Internal Outfall 503 allows the permittee to route the treated wastewater to one of the following outfalls for discharge to surface waters: Outfall 001/002, Outfall 004, or Outfall 005. This allows the permittee flexibility to possibly route the discharge through different outfalls while ensuring protection of the receiving waters (see Attachment 2 for diagrams depicting the interim configuration). The basis for the effluent limits, including the dilution ratio's applied to each outfall, are discussed earlier in this fact sheet. In summary, the effluent limits established for the discharge to Outfall 001/002 or Outfall 004 apply a 2:1 dilution ratio as these outfalls discharge to the tidal Quantico Creek embayment. The effluent limits established for the discharge to Outfall 005 into the UT, Quantico Creek do not allow for any dilution. Meeting effluent limits at Internal Outfall 503 will protect and maintain water quality at any of the outfalls identified as discharge options, while providing Dominion with the flexibility needed to pursue closure of the ash ponds. Documentation for derivation of effluent limits is provided in Attachments 10a and 14.

Effluent limits, including a Whole Effluent Toxicity (WET) limits, are included in the proposed permit for all constituents associated with coal combustion residuals for which water quality criteria exist. Monitoring has also been proposed for the suite of parameters associated with coal combustion residuals for which there are no water quality criteria, and accordingly, no proposed effluent limits. While the WET sampling ensures that these parameters, as well as others that may cause toxicity, are accounted for in the sampling regime, sample results for these additional constituents will be helpful should toxicity be observed and for better understanding the full characteristics of the discharge. Monitoring for parameters with proposed effluent limits is to be conducted at a frequency of three times per week (3/W). Monitoring for other parameters, including the WET testing, is once per month. Composite sampling for the additional pollutants is to be conducted during the composite period for the WET testing.

#### Internal Outfall 503 (Final Configuration)

During the closing and capping of Ash Pond D, a subsurface dewatering system (i.e., underdrains) will be installed to remove excess water below the impermeable liner of Ash Pond D. The underdrains will be managed through the use of a treatment system designed to address the established monitoring and effluent limitations as discussed above. In addition to the underdrain, the application submitted by Dominion indicates Internal Outfall 501 will also be routed through the treatment system in the final configuration. For permitting purposes, the Internal Outfall 503 (final) designation will be applied to this treatment system. The treatment system will discharge via existing Outfall 005 to an unnamed tributary to Quantico Creek. See Attachment 2 for schematic diagrams of the final configuration. Meeting effluent limits at Internal Outfall 503 (final) will protect and maintain the water quality at Outfall 005. Because closure is not expected to be concluded prior to the reissuance of this permit in April 2018, final effluent limits for Outfall 005 will be established at that time reflecting the final configuration of site activities. Limits will be based on monitoring data and the reasonable potential analysis of the wastewater that will exist upon final configuration.

It should also be noted that an alternate final configuration for the Ash Pond D underdrain system is also being considered by Dominion. This alternate configuration includes pretreatment, where required, and discharge to the Prince William County Service Authority's (PWCSA) H.L. Mooney Advanced Water Reclamation Facility (VA0025101). This alternate final configuration would be addressed by the PWCSA through the pretreatment program associated with the H.L. Mooney Advanced Water Reclamation Facility.

### Outfall 010

As noted above, no dilution is applied to the development of effluent limits for Outfall 010. The UT, Quantico Creek is a marsh area; the receiving stream may be tidally influenced under certain conditions, and is likely inundated during storm events. However, there shall be no dilution applied to the Outfall 010 in consideration of critical flow conditions. Documentation for derivation of effluent limits is provided in Attachments 10a and 14.

Effluent limits, including a Whole Effluent Toxicity (WET) limit, are included in the proposed permit for all constituents associated with coal combustion residuals for which water quality criteria exist. The effluent limits become effective 30 days after the major modification date. All monitoring requirements are effective upon the major modification date. Monitoring has also been proposed for the suite of parameters associated with coal combustion residuals for which there are no water quality criteria, and accordingly, no proposed effluent limits. While the WET sampling ensures that these parameters, as well as others that may cause toxicity, are accounted for in the sampling regime, sample results for these additional constituents will be helpful should toxicity be observed and for better understanding the full characteristics of the discharge. Monitoring for all parameters, including WET testing, is included at a frequency of once per month.

The selection of parameters for which effluent limits and/or monitoring requirements have been established is discussed below.

### **Discharges Associated With Coal Combustion Residual (CCR) Impoundment Closure: Effluent Screening and Limitation Development**

Effective October 2015, the U.S. Environmental Protection Agency (EPA) adopted a final Rule that will regulate the disposal of coal combustion residuals (CCR) as solid waste under subtitle D of the Resource Conservation and Recovery Act. Coal combustion residuals (otherwise known as coal ash) may include fly ash, bottom ash, boiler slag, and other low volume waste materials and are generated from burning coal for the purposes of generating electrical power. Disposal of the CCRs at this facility has historically been accomplished in impoundments located on site. These impoundments include surface waters originating from precipitation, storm water runoff into the impoundments, comingled process wastewaters, and waters used to hydraulically dredge ash from one pond to another. Interstitial, or pore, waters, also exist within the bottom residual mass of the impoundment. Due to its direct contact and exposure to the coal ash materials, the pollutant concentrations of the coal ash interstitial waters may pose a reasonable potential to exceed established water quality criteria. In response to EPA's 2015 CCR Rule, the owner plans to remove and discharge the accumulated waters to dry the ash and residuals that have settled to the bottom of the impoundment. This process is expected to involve the disturbance, movement, or re-suspension of the bottom residuals. Drying the ash and bottom residuals will facilitate their subsequent removal or construction of a closure cap of the impoundment system.

To identify and evaluate constituents of potential concern (COPC) associated with the removal of waters from the coal ash ponds, DEQ relied upon work previously performed by the EPA and documented in the following: 1) 40CFR Part 423 federal effluent limitation guidelines (ELGs) for the "Steam Electric Power Generating Point Source Category;" 2) a June 7, 2010 EPA memorandum titled, "National Pollutant Discharge Elimination System (NPDES) Permitting of Wastewater Discharges from Flue Gas Desulfurization (FGD) and Coal Combustion Residual (CCR) Impoundments at Steam Electric Power Plants;" and 3) a 2015 final Rule (commonly referred to as the "CCR Rule") that amended 40 CFR §§257.50 – 257.107, "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments." In its June 2010 memo<sup>1</sup>, EPA identified 37 chemical parameters that had the potential to exist in relatively high concentrations in CCR effluent. Several years later, in the preamble to the 2015 CCR Rule, EPA identified 35 "Table 1"<sup>2</sup> chemical parameters that represented a hazard potential because they were characteristic of releases from coal combustion impoundments and may pose a toxicity risk potential. EPA performed further probabilistic analyses of the potential risks to human health and ecological receptors from the 35 Table 1 constituents and narrowed the list down to 23 "Table 2"<sup>3</sup>

<sup>1</sup> United States Environmental Protection Agency, June 7, 2010 Memorandum from James A. Hanlon, Director, Office of Wastewater Management to Water Division Directors Regions 1 – 10; "National Pollutant Discharge Elimination System (NPDES) Permitting of Wastewater Discharges from Flue Gas Desulfurization (FGD) and Coal Combustion Residual (CCR) Impoundments at Steam Electric Power Plants," Attachment B, Water Quality-Based Effluent Limits, Coal Combustion Waste Impoundments; Appendix A, Steam Electric 2007/2008 Detailed Study Report, Ash Pond Effluent Concentrations.

<sup>2</sup> Federal Register, Vol. 80, No. 74, Friday, April 17, 2015, "Table 1 – List of Chemical Constituents Evaluated in the CCR Risk Assessment," page 21449.

<sup>3</sup> Federal Register, Vol. 80, No. 74, Friday, April 17, 2015, "Table 2 – List of Chemical Constituents Retained for Probabilistic Analysis," page 21450.

parameters (List of Chemical Constituents Retained for Probabilistic Analysis). These parameters include Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chloride, Chromium, Cobalt, Copper, Fluoride, Iron, Lead, Lithium, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium and Zinc.

Although the parameters listed in the CCR Rule Table 2 represent potential risks from CCR leachate releases, a conservative assumption was made that the probabilistic risks associated with leachate releases would be comparable to concerns associated with the release of CCR pore water. These 23 Table 2 constituents and all other constituents were classified in one of 4 categories for consideration.

- **Category 1 - Table 2 constituents for which water quality criteria have been adopted in the Virginia Water Quality Standards regulation (9VAC25-260):** Water quality based effluent limitations were developed for these parameters regardless of whether or not the existing data for the facility demonstrated a reasonable potential to exceed the water quality criteria (Attachment 14). Effluent limitations were developed in this fashion for Antimony, Arsenic, Cadmium, Chloride, Chromium (III and VI), Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc. There are no water quality criteria that are applicable to the aquatic life designation for Antimony or Thallium. For these parameters, the effluent limitation is equal to the most limiting allocation for human health.
- **Category 2 – Table 2 constituents for which water quality criteria have not be adopted in the Virginia Water Quality Standards regulation (9VAC25-260):** A Whole Effluent Toxicity limitation was established in the absence of an applicable Virginia numeric water quality criterion. This approach is consistent with EPA's Technical Support Document for Water Quality-based Toxics Control and the June 7, 2010 EPA memorandum. Parameters included in this category include Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium. Attachment 15 details the derivation of the calculated WET limitations that will be included with this permit action. In addition, once per month (1/M) monitoring of these parameters is to be done concurrently during the composite period with WET test monitoring. Data will then be available for analysis in the event that WET monitoring indicates toxicity.
- **Category 3 – Constituents not listed in Table 2 for which water quality criteria have been adopted in the Virginia Water Quality Standards regulation (9VAC25-260):** A reasonable potential analysis was performed to determine the need for water-quality based effluent limitations on a case-by-case basis. The reasonable potential analysis included in Attachment 14 resulted in no additional effluent limitations.
- **Category 4 – Federal Effluent Guidelines:** Technology-based effluent limits were assigned to applicable constituents addressed by the Federal Effluent Guidelines and not otherwise controlled by a more restrictive water quality-based effluent limitation. Constituents limited under this category include pH, Total Suspended Solids and Oil & Grease. These limitations are discussed in Section 17.c of this Fact Sheet.

Total Hardness:

The Water Quality Criteria for some metals are dependent on the effluent hardness (expressed as mg/L calcium carbonate). Because staff has proposed effluent limits and monitoring for metals, it is staff's best professional judgment that hardness monitoring also be implemented with this modification.

The permittee has requested the option to remove the groundwater contributions to Outfall 010. As discussed, the groundwater contributions include both the infiltration through the earthen berm as well as groundwater diverted around the impoundment. Should the permittee separate and remove all groundwater contributions to the discharge, then the discharge would be comprised of only stormwater. In this event, the permit allows the permittee to demonstrate to DEQ that the nonstormwater component of the discharge has been eliminated, and the outfall would be re-designated as Outfall S107. In this event, the permit requires continued sampling of the stormwater discharges in order to characterize the discharge and confirm that there is no reasonable potential contribution of pollutants that would not be expected to be present in storm water in appreciable amounts. See Part 1.F.23 of the permit.

## 19. Ash Pond A, B, C Complex:

On April 9, 2014, Dominion notified the Northern Regional Office of a discharge from an ash pond complex (Ash Ponds A, B, and C) located on a parcel of land between Possum Point Road and Quantico Creek. The Ash Pond A, B, and C complex was actively utilized from 1955 through the early 1960s. The drainage area containing the inactive ash pond

complex had been accounted for within the facility's VPDES permit in the 1990s as a stormwater outfall not associated with industrial activity (S104). However, after 1999 the outfall was no longer included in Dominion's reapplication packages due to its designation of not being associated with industrial activity.

DEQ staff observed the Ash Pond A, B, C complex on April 11, 2014 (Attachment 16). At the time, a discharge weir and discharge pipe remained in place at Ash Pond C which had a direct discharge to Quantico Creek. The modification request received on June 30, 2014, requested coverage for the discharge from the aforementioned weir. However, since the submission of that modification request Dominion has decided to clean-close the Ash Pond A, B, C complex. As part of the closure process, the discharge weir was sealed. A discharge has not occurred from this structure since May 2015. This permitting action does not authorize discharge from this weir structure. This permit allows discharge of Ash Pond A, B, and C waters to Internal Outfall 503.

Any ambient monitoring and/or groundwater monitoring required as a condition of closure will be regulated under the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.) and a solid waste permit for closure and post-closure issued pursuant to those regulations.

## 20. Antibacksliding:

### 1) Outfall 004

The Total Residual Chlorine (TRC) limits derived for the 2007 reissuance, while technically correct, were incorrectly transferred from the Fact Sheet to the permit. The permit lists a maximum limit of 0.032 mg/L and a monthly average limit of 0.022 mg/L rather than the maximum limit of 0.038 mg/L and the monthly average limit of 0.026 mg/L as derived (Attachment 15a). This reissuance corrects the typographical error associated with the TRC limits at Outfall 004, and as such a daily maximum TRC limit of 0.038 mg/L and a monthly average TRC limit of 0.026 mg/L shall be included with this reissuance.

It is staff's opinion that this change is appropriate given the limits that were derived for this reissuance are consistent with those previously derived (2007), and that they are based on the Water Quality Standard for TRC. Staff believes there is no reasonable potential for this revised limit to create any instream excursion of any applicable State narrative or numerical Water Quality Standard.

### 2) Outfall 502

The Total Petroleum Hydrocarbon (TPH) limits placed in the previous permit, a maximum of 60 mg/L and a monthly average of 30 mg/L, were consistent with those typically applied to oil-water separator discharges at the time of the 2007 reissuance. Components of the discharge from Outfall 502 contain auxiliary boiler blowdown and drains, both of which are specifically included in the definition of low volume waste sources. It is staff's best professional judgement that with this reissuance the previously established TPH limitations be removed and oil and grease limitations be implemented to provide consistency with Federal Effluent Guidelines CFR 423.12(b)(3). A daily maximum of 20 mg/L and a monthly average of 15 mg/L are proposed. It is staff's opinion that this change is appropriate given there is no state Water Quality Standard for TPH and as such, the Federal Effluent Guideline is the most stringent limitation. Staff believes there is no reasonable potential for this revised limit to create any instream excursion of any applicable State narrative or numerical Water Quality Standard.

## VPDES PERMIT PROGRAM FACT SHEET

VA0002071  
PAGE 36 of 74

**21a. Effluent Limitations/Monitoring Requirements: Outfall 001/002 (Unit 3 Condenser Cooling Water, Unit 5 Cooling Tower Blowdown, Unit 6 Cooling Tower Blowdown, Internal Outfall 503 (Interim), and Stormwater.**

Average flow is 86.38 MGD (does not include flows that may be contributed by Internal Outfall 503).

Effective Dates: During the period beginning with the permit's major modification date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	1,2	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Heat Rejection (Unit 3)	1,2	NA	NA	NA	5.58 x 10 <sup>8</sup> BTU/hr	Continuous	Calculated
Total Residual Chlorine (TRC)*	1,2	0.022 mg/L	0.032 mg/L	NA	NA	2/M	Grab
Total Nitrogen, Intake*	1	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Nitrogen*	1	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus, Intake*	1	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Phosphorus*	1	NL (mg/L)	NA	NA	NA	1/3M	Grab
Temperature, Intake	1,2	NL (°C)	NA	NA	NL (°C)	1/D	IS
Temperature	1,2	NL (°C)	NA	NA	NL (°C)	1/D	IS
Dissolved Copper, Intake*	1	NL (µg/L)	NA	NA	NA	1/6M	Grab
Dissolved Copper*	1	NL (µg/L)	NA	NA	NA	1/6M	Grab
Total Hardness, Intake (as CaCO <sub>3</sub> )*	1	NL (mg/L)	NA	NA	NA	1/6M	Grab
Total Hardness (as CaCO <sub>3</sub> )*	1	NL (mg/L)	NA	NA	NA	1/6M	Grab
Chronic Toxicity – <i>C. dubia</i> (TU <sub>c</sub> )	1	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU <sub>c</sub> )	1	NA	NA	NA	NL	1/YR	Grab

The basis for the limitations codes are:

- Best Professional Judgement
- Water Quality Standards

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

IS = Immersion stabilization.

1/D = Once every day.

1/M = Once every month.

2/M = Twice every month.

1/3M = Once every three months.

1/6M = Once every six months.

1/YR = Once every year.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO<sub>2</sub>+NO<sub>3</sub> and shall be calculated from the results of those tests.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

1/6M = The semi-annual monitoring period shall be January 1 – June 30 and July 1 - December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (July 10 and January 10, respectively).

1/YR = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

**21a. Effluent Limitations/Monitoring Requirements: Outfall 001/002 (Unit 3 Condenser Cooling Water, Unit 5 Cooling Tower Blowdown, Unit 6 Cooling Tower Blowdown, Internal Outfall 503 (Interim), and Stormwater – Continued**

## Chlorine Requirements:

- \* Monitoring for Total Residual Chlorine is only required when the facility is chlorinating.

## Total Nitrogen and Total Phosphorus Requirements:

- \* Intake and discharge sampling for the parameter (Total Phosphorus or Total Nitrogen) shall be conducted on the same date. To the maximum extent practicable, discharge samples shall be collected in such a manner to account for pass through time of the system to allow for evaluation of nutrient additions from station operations.

## Dissolved Copper and Total Hardness Requirements:

- \* Dissolved copper and hardness samples shall be collected concurrently. Intake and discharge samples collected to comply with Dissolved Copper and Hardness requirements shall be collected on the same date. To the maximum extent practicable, discharge samples shall be collected in such a manner to account for pass through time of the system to allow for evaluation of dissolved copper additions from station operations.

**21b. Effluent Limitations/Monitoring Requirements: Outfall 003 (Unit 4 Condenser Cooling Water)**

Average flow is 82.55 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	2	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Heat Rejection (Unit 4)	1,2	NA	NA	NA	1.14 x 10 <sup>9</sup> BTU/hr	Continuous	Calculated
Total Residual Chlorine (TRC)*	1,2	0.022 mg/L	0.032 mg/L	NA	NA	2/M	Grab
Temperature	1,2	NL (°C)	NA	NA	NL (°C)	1/W	IS
Chronic Toxicity – <i>C. dubia</i> (TU <sub>c</sub> )	1	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU <sub>c</sub> )	1	NA	NA	NA	NL	1/YR	Grab

The basis for the limitations codes are:

1. Best Professional Judgement

2. Water Quality Standards

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

IS = Immersion stabilization.

1/W = Once every week.

1/M = Once every month.

2/M = Twice every month.

1/YR = Once every year.

1/YR = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Chlorine Requirements:

\* Monitoring for Total Residual Chlorine is only required when the facility is chlorinating.

**21c. Effluent Limitations/Monitoring Requirements: Outfall 004 (Low Volume Waste Settling Pond, Internal Outfall 502, and Internal Outfall 503 (Interim))**

Average flow is 2.59 MGD (does not include flows that may be contributed by Internal Outfall 503).

Effective Dates: During the period beginning with the permit's major modification date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	2/M	Estimate
pH	1a,3	NA	NA	6.0 S.U.	9.0 S.U.	2/M	Grab
Heat Rejection (Unit 6)	2,3	NA	NA	NA	1.9 x 10 <sup>8</sup> BTU/hr	2/M	Calculated
Total Residual Chlorine (TRC)*	2,3	0.026 mg/L	NA	NA	0.038 mg/L	1/W	Grab
Temperature	2,3	NL (°C)	NA	NA	NL (°C)	1/W	IS
Oil & Grease (O&G)	1b,1c	15 mg/L	NA	NA	20 mg/L	2/M	Grab
Total Suspended Solids (TSS)	1b,1c	30 mg/L	NA	NA	100 mg/L	2/M	Grab
Total Nitrogen	2	NL (mg/L)	NA	NA	NA	1/6M	Calculated
Total Kjeldahl Nitrogen (TKN)	2	NL (mg/L)	NA	NA	NA	1/6M	Grab
Nitrate+Nitrite (NO <sub>3</sub> + NO <sub>2</sub> ), as N	2	NL (mg/L)	NA	NA	NA	1/6M	Grab
Ammonia, as N	2	NL (mg/L)	NA	NA	NA	1/6M	Grab
Total Phosphorus	2	NL (mg/L)	NA	NA	NA	1/6M	Grab
Chronic Toxicity – <i>C. dubia</i> (TU <sub>c</sub> )	2	NA	NA	NA	NL	1/YR	Grab
Chronic Toxicity – <i>P. promelas</i> (TU <sub>c</sub> )	2	NA	NA	NA	NL	1/YR	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
  - a) 40 CFR 423.12(b)(1)
  - b) 40 CFR 423.12(b)(3)
  - c) 40 CFR 423.12(b)(11)

MGD = Million gallons per day.

NA = Not applicable.

1/W = Once every week.

2/M = Twice every month.

2. Best Professional Judgement

NL = No limit; monitor and report.

1/6M = Once every six months.

3. Water Quality Standards

S.U. = Standard units.

1/YR = Once every year.

IS = Immersion stabilization.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO<sub>2</sub>+NO<sub>3</sub> and shall be calculated from the results of those tests.

1/6M = The semi-annual monitoring period shall be January 1 – June 30 and July 1 - December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (July 10 and January 10, respectively).

1/YR = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- c) 40 CFR 423.12(b)(11) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Chlorine Requirements:

\* Monitoring for Total Residual Chlorine is only required when the facility is chlorinating.

**21d. Effluent Limitations/Monitoring Requirements: Outfall 005 (Interim Configuration – Internal Outfall 503 and Discharge from Holding Basin)**

Average flow is 2.53 MGD; Maximum flow is 2.88 MGD

Effective Dates: During the period beginning with the commencement of facility dewatering activities and lasting until the expiration date. Internal Outfall 503 is authorized to discharge through Outfall 005. When the Outfall 005 discharge is comprised of effluent directly from Internal Outfall 503, the monitoring results from Internal Outfall 503 may be used to satisfy effluent monitoring requirements for Outfall 005. The effluent and monitoring requirements below apply to Outfall 005 discharges from the holding basin. Such discharges shall be limited and monitored by the permittee as specified below.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NA	NA	NA	2.88	3/W	Estimate
pH	1,3a	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS)	1,3a,3b,3c	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	1,3a,3b,3c	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable	1	640 µg/L	640 µg/L	NA	NA	3/W	4H-C
Arsenic, Total Recoverable	1,2	120 µg/L	220 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable	1,2	0.88 µg/L	1.6 µg/L	NA	NA	3/W	4H-C
Chloride	1,2	180,000 µg/L	340,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable	1,2	59 µg/L	110 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable	1,2	8.7 µg/L	16 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable	1,2	7.1 µg/L	13 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable	1,2	11 µg/L	20 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable	1,2	0.61 µg/L	1.1 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable	1,2	16 µg/L	29 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable	1,2	4.0 µg/L	7.3 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable	1,2	1.8 µg/L	3.4 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable	1	0.47 µg/L	0.47 µg/L	NA	NA	3/W	4H-C
Vanadium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable	1,2	65 µg/L	120 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO <sub>3</sub> )	1	NL (mg/L)	NL (mg/L)	NA	NA	3/W	4H-C
Total Nitrogen	1	NL (mg/L)	NA	NA	NA	1/M	Calculation
Total Kjeldahl Nitrogen (TKN)	1	NL (mg/L)	NA	NA	NA	1/M	4H-C
Nitrate+Nitrite (NO <sub>2</sub> +NO <sub>3</sub> ), as N	1	NL (mg/L)	NA	NA	NA	1/M	4H-C
Ammonia, as N	1	NL (mg/L)	NA	NA	NA	1/M	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU <sub>c</sub> )	1	NA	NA	NA	1.44 TU <sub>c</sub>	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU <sub>c</sub> )	1	NA	NA	NA	1.44 TU <sub>c</sub>	1/M	24H-C

**21d. Effluent Limitations/Monitoring Requirements: Outfall 005 (Interim Configuration – Internal Outfall 503 and Discharge from Holding Basin) – Continued**

The basis for the limitations codes are:

- |                                  |                                    |                            |
|----------------------------------|------------------------------------|----------------------------|
| 1. Best Professional Judgement   | MGD = Million gallons per day.     | 3/W = Three days per week. |
| 2. Water Quality Standards       | NL = No limit; monitor and report. | 1/M = Once every month.    |
| 3. Federal Effluent Requirements | NA = Not applicable.               |                            |
| a) 40 CFR 423.12(b)(1)           | S.U. = Standard units.             |                            |
| b) 40 CFR 423.12(b)(3)           |                                    |                            |
| c) 40 CFR 423.12(b)(12)          |                                    |                            |

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO<sub>2</sub>+NO<sub>3</sub> and shall be calculated from the results of those tests.

**Federal Effluent Requirements:**

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- c) 40 CFR 423.12(b)(12) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

**Special Monitoring Requirements:**

- a) Sampling for the parameters identified with a monitoring frequency of “3/W” for Outfall 005 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report.
- b) The composite period for all metals identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring.
- c) The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503. See Part I.F.20 for additional requirements.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by  $\geq 10\%$  or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by  $\geq 10\%$  or more during the monitored discharge.

**21e. Effluent Limitations/Monitoring Requirements: Outfall 007 (Intake Screen Backwash Water – Units 3, 4, 5 and 6)**

Average flow is 0.19 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Measured

The basis for the limitations codes are:

MGD = Million gallons per day.

1/3M = Once every three months.

1. Federal Effluent Requirements

NA = Not applicable.

2. Best Professional Judgement

NL = No limit; monitor and report.

3. Water Quality Standards

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Measured = In lieu of providing measured flow at Outfall 007, the permittee may estimate flow and submit the following information with the DMR:

1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

**21f. Effluent Limitations/Monitoring Requirements: Outfall 008 (Intake Screenwell Freeze Protection Water)**

Average flow is 0.00 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Measured

The basis for the limitations codes are:

MGD = Million gallons per day.

1/3M = Once every three months.

1. Federal Effluent Requirements

NA = Not applicable.

2. Best Professional Judgement

NL = No limit; monitor and report.

3. Water Quality Standards

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Measured = In lieu of providing measured flow at Outfall 008, the permittee may estimate flow and submit the following information with the DMR:

1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

**21g. Effluent Limitations/Monitoring Requirements: Outfall 009 (Intake Screen Backwash Water – Units 3 and 4)**

Average flow is 0.19 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Measured

The basis for the limitations codes are:

MGD = Million gallons per day.

1/3M = Once every three months.

1. Federal Effluent Requirements      NA = Not applicable.
2. Best Professional Judgement      NL = No limit; monitor and report.
3. Water Quality Standards

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Measured = In lieu of providing measured flow at Outfall 009, the permittee may estimate flow and submit the following information with the DMR:

1. A description of the methodology used to estimate flow (based on the technical evaluation of the sources contributing to the discharge) where flow measurement equipment is not present;
2. Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations shall also be provided; and
3. A description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

**21h. Effluent Limitations/Monitoring Requirements: Outfall 010 (Ash Pond D Toe Drain, Groundwater and Stormwater)**

Effective Dates: During the period beginning with the permit's major modification date and lasting until the expiration date. The effluent limitations specified below become effective thirty (30) days after the major modification date of the permit. The monitoring requirements shall commence upon the major modification date of the permit.

<u>PARAMETER</u>	<u>BASIS FOR LIMITS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	1,2,3a	NA	NA	6.0 (S.U.)	9.0 (S.U.)	1/M	Grab
Total Suspended Solids (TSS)	1,3b,3c	30 mg/L	100 mg/L	NA	NA	1/M	4H-C
Oil and Grease (O&G)	1,3b,3c	15 mg/L	20 mg/L	NA	NA	1/M	4H-C
Specific Conductivity	1	NA	NA	NA	NL (µhoms/cm)	1/M	4H-C
Aluminum, Total Recoverable	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable	1	640 µg/L	640 µg/L	NA	NA	1/M	4H-C
Arsenic, Total Recoverable	1,2	220 µg/L	220 µg/L	NA	NA	1/M	4H-C
Barium, Total Recoverable	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable	1,2	1.1 µg/L	1.1 µg/L	NA	NA	1/M	4H-C
Chloride	1,2	340,000 µg/L	340,000 µg/L	NA	NA	1/M	4H-C
Chromium III, Total Recoverable	1,2	73 µg/L	73 µg/L	NA	NA	1/M	4H-C
Chromium VI, Total Recoverable	1,2	16 µg/L	16 µg/L	NA	NA	1/M	4H-C
Cobalt, Total Recoverable	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable	1,2	8.4 µg/L	8.4 µg/L	NA	NA	1/M	4H-C
Iron, Total Recoverable	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable	1,2	11 µg/L	11 µg/L	NA	NA	1/M	4H-C
Mercury, Total Recoverable	1,2	1.1 µg/L	1.1 µg/L	NA	NA	1/M	4H-C
Molybdenum, Total Recoverable	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable	1,2	19 µg/L	19 µg/L	NA	NA	1/M	4H-C
Selenium, Total Recoverable	1,2	7.3 µg/L	7.3 µg/L	NA	NA	1/M	4H-C
Silver, Total Recoverable	1,2	1.5 µg/L	1.5 µg/L	NA	NA	1/M	4H-C
Thallium, Total Recoverable	1	0.47 µg/L	0.47 µg/L	NA	NA	1/M	4H-C
Vanadium, Total Recoverable	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable	1,2	77 µg/L	77 µg/L	NA	NA	1/M	4H-C
Hardness, Total (as CaCO <sub>3</sub> )	1	NL ( µg/L)	NL ( µg/L)	NA	NA	1/M	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU <sub>c</sub> )	1	NA	NA	NA	1.44 TU <sub>c</sub>	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU <sub>c</sub> )	1	NA	NA	NA	1.44 TU <sub>c</sub>	1/M	24H-C

The basis for the limitations codes are:

1. Best Professional Judgement
2. Water Quality Standards
3. Federal Effluent Guidelines
  - a) 40 CFR 423.12(b)(1)
  - b) 40 CFR 423.12(b)(11)
  - c) 40 CFR 423.12(b)(12)

MGD = Million gallons per day.

NL = No limit; monitor and report.

NA = Not applicable.

S.U. = Standard units.

1/M = Once every month.

**21h. Effluent Limitations/Monitoring Requirements: Outfall 010 (Ash Pond D Toe Drain) - Continued**

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

**Federal Effluent Requirements:**

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR Part 423.12(b)(11) – BPT quantity of pollutants discharged in combustion residual leachate establishing daily maximum and monthly average limitations for Total Suspended Solids and Oil and Grease.
- c) 40 CFR Part 423.12(b)(12) - BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

**Metals and Whole Effluent Toxicity Testing Requirements:**

The composite period for Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium shall occur within the composite period for the Whole Effluent Toxicity monitoring.

**Metals and Total Hardness Requirements:**

The metals and total hardness samples shall be collected concurrently.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by  $\geq 10\%$  or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by  $\geq 10\%$  or more during the monitored discharge.

**21i. Effluent Limitations/Monitoring Requirements: Outfall 201 (Unit 5 Cooling Tower Blowdown)**

Average flow is 1.48 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	NA	NL	NA	NA	NL	1/D-M	Estimate
pH	1a	NA	NA	6.0 S.U.	9.0 S.U.	1/D-W	Grab
Free Available Chlorine *	1b,1c,1d,1f	0.2 mg/L	0.5 mg/L	NA	NA	1/D-W	Grab
Total Nitrogen*	1	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus*	1	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Chromium	1d,1f	0.2 mg/L	0.2 mg/L	NA	NA	1/D-M	Grab
Total Zinc	1d,1f	1.0 mg/L	1.0 mg/L	NA	NA	1/D-M	Grab
126 Priority Pollutants (Appendix A of 40 CFR 423)	1d,1e	Non-detectable	NA	NA	Non-detectable	1/D-Y	Grab

The basis for the limitations codes are:

MGD = Million gallons per day.

1/D-W = Once per week in which there is a discharge.

## 1. Federal Effluent Requirements

NA = Not applicable.

1/D-M = Once per month in which there is a discharge.

- a) 40 CFR 423.12(b)(1)
- b) 40 CFR 423.12(b)(7)
- c) 40 CFR 423.12(b)(11)
- d) 40 CFR 423.13(d)(1)
- e) 40 CFR 423.13(d)(3)
- f) 40 CFR 423.13(g)

NL = No limit; monitor and report.

1/3M = Once every three months.

S.U. = Standard units.

1/D-Y = Once per year in which there is a discharge.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO<sub>2</sub>+NO<sub>3</sub> and shall be calculated from the results of those tests.1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).1/D-Y = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

## Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(7) – BPT cooling tower blowdown establishing daily maximum and monthly average limitations for Free Available Chlorine.
- c) 40 CFR 423.12(b)(11) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.
- d) 40 CFR 423.13(d)(1) – BAT cooling tower blowdown establishing daily maximum and monthly average limitations for Total Chromium, Total Zinc, and the 126 Priority Pollutants.
- e) 40 CFR 423.13(d)(3) – BAT cooling tower blowdown establishing that compliance with limitations for the 126 Priority Pollutants may be determined by engineering calculations.
- f) 40 CFR 423.13(g) – BAT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

Chlorine Requirements:

- \* Monitoring for Free Available Chlorine is only required when the facility is chlorinating.

Total Nitrogen and Total Phosphorus Requirements:

- \* Sampling of the parameter (either Total Nitrogen or Total Phosphorus) shall be conducted on the same date as sampling for the parameter at the intake and Outfall 001/002 locations.

**21j. Effluent Limitations/Monitoring Requirements: Outfall 202 (Unit 6 Cooling Tower Blowdown)**

Average flow is 0.91 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D-M	Estimate
pH	1a	NA	NA	6.0 S.U.	9.0 S.U.	1/D-W	Grab
Free Available Chlorine *	1b,1d	0.2 mg/L	0.5 mg/L	NA	NA	1/D-W	Grab
Total Nitrogen*	1	NL (mg/L)	NA	NA	NA	1/3M	Calculated
Total Phosphorus*	1	NL (mg/L)	NA	NA	NA	1/3M	Grab
Total Chromium	1b,1d	0.2 mg/L	0.2 mg/L	NA	NA	1/D-M	Grab
Total Zinc	1b,1d	1.0 mg/L	1.0 mg/L	NA	NA	1/D-M	Grab
126 Priority Pollutants (Appendix A of 40 CFR 423)	1b,1c	Non-detectable	NA	NA	Non-detectable	1/D-Y	Grab

The basis for the limitations codes are: MGD = Million gallons per day.

1/D-W = Once per week in which there is a discharge.

1. Federal Effluent Requirements NA = Not applicable.

1/D-M = Once per month in which there is a discharge.

- a) 40 CFR 423.15(a)
- b) 40 CFR 423.15(j)(1)
- c) 40 CFR 423.15 (j)(3)
- d) 40 CFR 423.13(m)

NL = No limit; monitor and report.

1/3M = Once every three months.

S.U. = Standard units.

1/D-Y = Once per year in which there is a discharge.

Total Nitrogen = The sum of Total Kjeldahl Nitrogen and NO<sub>2</sub>+NO<sub>3</sub> and shall be calculated from the results of those tests.

1/3M = The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

1/D-Y = The annual monitoring period shall be January 1 - December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (January 10).

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

**Federal Effluent Requirements:**

- a) 40 CFR 423.15(a)(1) – NSPS the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.15(j)(1) – NSPS cooling tower blowdown establishing daily maximum and monthly average limitations for Free Available Chlorine, Total Chromium, Total Zinc, and the 126 Priority Pollutants.
- c) 40 CFR 423.15(j)(3) – NSPS cooling tower blowdown establishing that compliance with limitations for the 126 Priority Pollutants may be determined by engineering calculations.
- g) 40 CFR 423.15(m) – NSPS quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

**Chlorine Requirements:**

- \* Monitoring for Free Available Chlorine is only required when the facility is chlorinating.

**Total Nitrogen and Total Phosphorus Requirements:**

- \* Sampling of the parameter (either Total Nitrogen or Total Phosphorus) shall be conducted on the same date as sampling for the parameter at the intake and Outfall 001/002 locations.

**21k. Effluent Limitations/Monitoring Requirements: Outfall 501 (Metals Cleaning Waste Treatment Basin)**

Average flow is 1.04 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	NA	NL	NA	NA	NL	1/D-M	Estimate
Oil and Grease (O&G)	1a,1b	15 mg/L	20 mg/L	NA	NA	1/D-M	Grab
Total Suspended Solids (TSS)	1a,1b	30 mg/L	100 mg/L	NA	NA	1/D-M	Grab
Total Iron	1a,1b,1c,1d	1.0 mg/L	1.0 mg/L	NA	NA	1/D-M	Grab
Total Copper	1a,1b,1c,1d	1.0 mg/L	1.0 mg/L	NA	NA	1/D-M	Grab

The basis for the limitations codes are: MGD = Million gallons per day.

1/D-M = Once per month in which there is a discharge.

1. Federal Effluent Requirements NA = Not applicable.

- a) 40 CFR 423.12(b)(5)
- b) 40 CFR 423.12 (b)(11)
- c) 40 CFR 423.13(e)
- d) 40 CFR 423.13(g)

NL = No limit; monitor and report.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

## Federal Effluent Requirements:

- a) 40 CFR 423.12(b)(5) – BPT metal cleaning wastes establishing daily maximum and monthly average limitations for O&G, TSS, Total Iron and Total Copper.
- b) 40 CFR 423.12(b)(11) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.
- c) 40 CFR 423.13(e) – BAT metal cleaning wastes establishing daily maximum and monthly average limitations for Total Iron and Total Copper.
- d) 40 CFR 423.13(g) – BAT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

**211. Effluent Limitations/Monitoring Requirements: Outfall 502 (Oily Waste Treatment Basin)**

Average flow is 0.57 MGD

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	2/M	Estimate
Oil and Grease (O&G)	1a,1b	15 mg/L	20 mg/L	NA	NA	2/M	Grab
Total Suspended Solids (TSS)	1a,1b	30 mg/L	100 mg/L	NA	NA	2/M	Grab
Total Petroleum Hydrocarbons (TPH)*	2	NL (mg/L)	NL (mg/L)	NA	NA	2/M	Grab
Total Petroleum Hydrocarbons – Oil Range Organics (ORO)**	2	NL (mg/L)	NL (mg/L)	NA	NA	2/M	Grab

The basis for the limitations codes are: MGD = Million gallons per day.

2/M = Twice every month.

1. Federal Effluent Requirements NA = Not applicable.

a) 40 CFR 423.12(b)(3)

b) 40 CFR 423.12(b)(11)

2. Best Professional Judgement NL = No limit; monitor and report.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

## Federal Effluent Requirements:

a) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&amp;G and TSS.

b) 40 CFR 423.12(b)(11) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

## Total Petroleum Hydrocarbon Requirements:

\* Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

\*\*Total Petroleum Hydrocarbons – Oil Range Organics shall be measured by EPA SW 846 Method 8015B or any other Virginia Environmental Laboratory Accreditation Program (VELAP) approved method.

The permittee shall sample and submit TPH-ORO results at the frequency of twice per month for one year. If all reported results for TPH-ORO do not exceed the QL for TPH (0.50 mg/L), the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect one (1) sample during one month within each quarterly monitoring period. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The sample shall be analyzed for TPH-ORO and the results shall be submitted on the DMR no later than the 10<sup>th</sup> day of the month following the quarterly monitoring period.

Should any of the quarterly monitoring results for TPH-ORO exceed the QL for TPH (0.50 mg/L), the monitoring frequency shall revert to twice per month for the remainder of the permit term.

**21m. Effluent Limitations/Monitoring Requirements: Internal Outfall 503 (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 001/002 or Outfall 004.**

Average flow is 2.53 MGD; Maximum flow is 2.88 MGD

Effective Dates: During the period beginning with the commencement of facility dewatering activities and lasting until the completion of dewatering and/or installation of the underdrain, or the expiration date, whichever occurs first. The limitations below are applicable when the discharge from Internal Outfall 503 is routed to Outfall 001/002 or Outfall 004. Such discharges shall be limited and monitored by the permittee as specified below.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NA	NA	NA	2.88	3/W	Estimate
pH	1,3a	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS)	1,3a,3b,3c	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	1,3a,3b,3c	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable	1	1300 µg/L	1300 µg/L	NA	NA	3/W	4H-C
Arsenic, Total Recoverable	1,2	240 µg/L	440 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable	1,2	1.4 µg/L	2.6 µg/L	NA	NA	3/W	4H-C
Chloride	1,2	370,000 µg/L	670,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable	1,2	88 µg/L	160 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable	1,2	17 µg/L	32 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable	1,2	9.6 µg/L	18 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable	1,2	14 µg/L	26 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable	1,2	1.2 µg/L	2.2 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable	1,2	24 µg/L	44 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable	1,2	8.0 µg/L	15 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable	1,2	2.2 µg/L	4.0 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable	1	0.94 µg/L	0.94 µg/L	NA	NA	3/W	4H-C
Vanadium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable	1,2	98 µg/L	180 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO <sub>3</sub> )	1	NL (mg/L)	NL (mg/L)	NA	NA	3/W	Grab
Acute Toxicity – <i>C. dubia</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU <sub>c</sub> )	1	NA	NA	NA	2.85 TU <sub>c</sub>	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU <sub>c</sub> )	1	NA	NA	NA	2.85 TU <sub>c</sub>	1/M	24H-C

The basis for the limitations codes are:

1. Best Professional Judgement
2. Water Quality Standards
3. Federal Effluent Requirements
  - a) 40 CFR423.12(b)(1)
  - b) 40 CFR 423.12(b)(3)
  - c) 40 CFR 423.12(b)(12)

MGD = Million gallons per day.

NL = No limit; monitor and report.

NA = Not applicable.

S.U. = Standard units.

3/W = Three days per week.

1/M = Once every month.

**21m. Effluent Limitations/Monitoring Requirements: Internal Outfall 503 (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) - When Routed to Outfall 001/002 or Outfall 004 - Continued**

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

**Federal Effluent Requirements:**

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- c) 40 CFR 423.12(b)(12) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

**Special Monitoring Requirements:**

- a) Sampling for the parameters identified with a monitoring frequency of “3/W” for Internal Outfall 503 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report.
- b) The composite period for the parameters identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring.
- c) The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503. See Part I.F.20 for additional requirements.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by  $\geq 10\%$  or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by  $\geq 10\%$  or more during the monitored discharge.

**21n. Effluent Limitations/Monitoring Requirements: Internal Outfall 503 (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 005**

Average flow is 2.53 MGD; Maximum flow is 2.88 MGD

Effective Dates: During the period beginning with the commencement of facility dewatering activities and lasting until the completion of dewatering and/or installation of the underdrain, or the expiration date, whichever occurs first. The limitations below are applicable when the discharge from Internal Outfall 503 is routed to Outfall 005. Such discharges shall be limited and monitored by the permittee as specified below.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NA	NA	NA	2.88	3/W	Estimate
pH	1,3a	NA	NA	6.0 S.U.	9.0 S.U.	3/W	Grab
Total Suspended Solids (TSS)	1,3a,3b,3c	30 mg/L	100 mg/L	NA	NA	3/W	4H-C
Oil and Grease (O&G)	1,3a,3b,3c	15 mg/L	20 mg/L	NA	NA	3/W	4H-C
Aluminum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Antimony, Total Recoverable	1	640 µg/L	640µg/L	NA	NA	3/W	4H-C
Arsenic, Total Recoverable	1,2	120 µg/L	220 µg/L	NA	NA	3/W	4H-C
Barium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Beryllium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Boron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Cadmium, Total Recoverable	1,2	0.88 µg/L	1.6 µg/L	NA	NA	3/W	4H-C
Chloride	1,2	180,000 µg/L	340,000 µg/L	NA	NA	3/W	4H-C
Chromium III, Total Recoverable	1,2	59 µg/L	110 µg/L	NA	NA	3/W	4H-C
Chromium VI, Total Recoverable	1,2	8.7 µg/L	16 µg/L	NA	NA	3/W	4H-C
Cobalt, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Copper, Total Recoverable	1,2	7.1 µg/L	13 µg/L	NA	NA	3/W	4H-C
Iron, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Lead, Total Recoverable	1,2	11 µg/L	20 µg/L	NA	NA	3/W	4H-C
Mercury, Total Recoverable	1,2	0.61 µg/L	1.1 µg/L	NA	NA	3/W	4H-C
Molybdenum, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Nickel, Total Recoverable	1,2	16 µg/L	29 µg/L	NA	NA	3/W	4H-C
Selenium, Total Recoverable	1,2	4.0 µg/L	7.3 µg/L	NA	NA	3/W	4H-C
Silver, Total Recoverable	1,2	1.8 µg/L	3.4 µg/L	NA	NA	3/W	4H-C
Thallium, Total Recoverable	1	0.47 µg/L	0.47 µg/L	NA	NA	3W	4H-C
Vanadium, Total Recoverable	1	NL (µg/L)	NL (µg/L)	NA	NA	1/M	4H-C
Zinc, Total Recoverable	1,2	65 µg/L	120 µg/L	NA	NA	3/W	4H-C
Hardness, Total (as CaCO <sub>3</sub> )	1	NL (mg/L)	NL (mg/L)	NA	NA	3/W	4H-C
Acute Toxicity – <i>C. dubia</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Acute Toxicity – <i>P. promelas</i> (NOAEC)	1	NA	NA	100%	NA	1/M	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU <sub>c</sub> )	1	NA	NA	NA	1.44 TU <sub>c</sub>	1/M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU <sub>c</sub> )	1	NA	NA	NA	1.44 TU <sub>c</sub>	1/M	24H-C

The basis for the limitations codes are:

1. Best Professional Judgement
2. Water Quality Standards
3. Federal Effluent Requirements
  - a) 40 CFR423.12(b)(1)
  - b) 40 CFR 423.12(b)(3)
  - c) 40 CFR 423.12(b)(12)

MGD = Million gallons per day.

NL = No limit; monitor and report.

NA = Not applicable.

S.U. = Standard units.

3/W = Three days per week.

1/M = Once every month.

**21n. Effluent Limitations/Monitoring Requirements: Internal Outfall 503 (Comingled Process Water, Ash Dewatering Water, Contact Water (Interim) / Ash Pond D Underdrain / Outfall 010 / Internal Outfall 501 (Final)) – When Routed to Outfall 005 - Continued**

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

**Federal Effluent Requirements:**

- a) 40 CFR 423.12(b)(1) – BPT the pH of all discharges, except once through cooling water, shall be within the range of 6.0 S.U. – 9.0 S.U.
- b) 40 CFR 423.12(b)(3) – BPT low volume waste sources establishing daily maximum and monthly average limitations for O&G and TSS.
- c) 40 CFR 423.12(b)(12) – BPT quantity of pollutants discharged may be expressed as a concentration instead of a mass balance.

**Special Monitoring Requirements:**

- a) Sampling for the parameters identified with a monitoring frequency of “3/W” for Internal Outfall 503 shall occur at least three (3) days per week with a minimum of 48 hours between sampling events. A sampling week extends Sunday through Saturday. The permittee shall receive results for parameters identified with a monitoring frequency of “3/W” within four business days of taking the sample. Results of the weekly sampling shall be reported to DEQ no later than the close of business Friday of the week following sample collection. This reporting requirement does not substitute for, or alter, Part II.C concerning the monthly reporting of monitoring results with the Discharge Monitoring Report.
- b) The composite period for the parameters identified with a monitoring frequency of “1/M” shall occur within the composite period for the Whole Effluent Toxicity monitoring.
- c) The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503. See Part I.F.20 for additional requirements.

4H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 4 (four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 4 (four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 4 (four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by  $\geq 10\%$  or more during the monitored discharge.

24H-C= A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24 (twenty-four)-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of 24 (twenty-four) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum 24 (twenty-four) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by  $\geq 10\%$  or more during the monitored discharge.

**21o. Effluent Limitations/Monitoring Requirements: Outfall S107 (Stormwater from Base of Ash Pond D Impoundment)**

Effective Dates: During the period beginning with written approval from DEQ that Outfall 010 is comprised only of stormwater discharges in accordance with Part I.F.23, and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number S107. Outfall S107 discharges shall be limited, monitored and managed by the permittee as specified and in accordance with Part I.E. and Part I.F.18 of this permit.

<u>PARAMETER</u>	<u>BASIS FOR LIMITS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Estimate
pH	2	NA	NA	6.0 (S.U.)	9.0 (S.U.)	1/3M	Grab
Total Suspended Solids (TSS)	NA	NL ( mg/L)	NL ( mg/L)	NA	NA	1/3M	Grab
Oil and Grease (O&G)	NA	NL ( mg/L)	NL ( mg/L)	NA	NA	1/3M	Grab
Specific Conductivity	NA	NA	NA	NA	NL (µhoms/cm)	1/3M	Grab
Aluminum, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Antimony, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Arsenic, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Barium, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Beryllium, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Boron, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Cadmium, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Chloride	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Chromium III, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Chromium VI, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Cobalt, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Copper, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Iron, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Lead, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Mercury, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Molybdenum, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Nickel, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Selenium, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Silver, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Thallium, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Vanadium, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Zinc, Total Recoverable	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab
Hardness, Total (as CaCO <sub>3</sub> )	NA	NL ( µg/L)	NL ( µg/L)	NA	NA	1/3M	Grab

The basis for the limitations codes are:

MGD = Million gallons per day.

1. Best Professional Judgement

NL = No limit; monitor and report.

2. Water Quality Standards

NA = Not applicable.

S.U. = Standard units.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

1/3M = Once every 3 months in which there is a discharge. The quarterly monitoring periods shall be January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period (April 10, July 10, October 10 and January 10, respectively).

Metals and Total Hardness Requirements:

The metals and total hardness samples shall be collected concurrently.

**21p. Monitoring Requirements: Outfalls S5, S31, S35, S36, S37, S42, S49, S61, S77, S78, S79, S80, S86, S94, S95, and S108 (Stormwater)**

Average flow is variable.

Effective Dates: During the period beginning with the permit's major modification date and lasting until the expiration date. Discharges shall be monitored and managed in accordance with Part 1.E of the permit.

There shall be no discharge of industrially influenced stormwater from these outfalls - S78, S79, S80, S86, and S94.

Industrially influenced stormwater may be discharged from these outfalls - S5, S31, S35, S36, S37, S42, S49, S61, S77, and S95.

The following industrially influenced stormwater outfalls have been deemed representative:

- Outfall S5 is deemed representative of Outfall S31 and S35.
- Outfall S42 is deemed representative of Outfalls S49 and S77.
- Outfall S61 is deemed representative of Outfalls S36 and S37.

In addition to the requirements established in Part I.E of the permit, Outfall S108 shall be monitored and managed in accordance with Part I.F.18 of the permit.

**21q. Limitations and Monitoring Requirements: Groundwater Monitoring**

Effective Dates: During the period beginning with the permit's major modification date, and lasting until the permit expiration date, the permittee is authorized to manage pollutants at Ash Pond D and Ash Pond E. The groundwater shall be monitored by the permittee as specified below except where groundwater monitoring is superseded pursuant to a solid waste permit issued in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.)

Ash Pond D Observation Wells      Stratum D      ED-1, ED-3, ED-9R, ED-15, ED-24R, ED-32

Ash Pond E Observation Wells      Stratum E      ES-1, ES-3a, ES-4

PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	<u>Limitations</u>	<u>Units</u>	<u>Frequency</u>	<u>Sample Type</u>
Static Water Level (mean sea level)	NL	Feet	Semi-Annual	Measurement
pH	NL	Standard Units	Semi-Annual	Grab
Specific Conductivity	NL	µmhos/cm	Semi-Annual	Grab
Hardness (as CaCO <sub>3</sub> )	NL	mg/L	Semi-Annual	Grab
Chlorides	NL	mg/L	Semi-Annual	Grab
Fluoride	NL	mg/L	Semi-Annual	Grab
Sodium	NL	mg/L	Semi-Annual	Grab
Potassium	NL	mg/L	Semi-Annual	Grab
Sulfate	NL	mg/L	Semi-Annual	Grab
Total Organic Carbon	NL	mg/L	Semi-Annual	Grab
Temperature	NL	°C	Semi-Annual	Grab
Dissolved Arsenic	NL	µg/L	Semi-Annual	Grab
Dissolved Barium	NL	µg/L	Semi-Annual	Grab
Dissolved Cadmium	NL	µg/L	Semi-Annual	Grab
Dissolved Copper	NL	µg/L	Semi-Annual	Grab
Dissolved Iron	NL	µg/L	Semi-Annual	Grab
Dissolved Mercury	NL	µg/L	Semi-Annual	Grab
Dissolved Lead	NL	µg/L	Semi-Annual	Grab
Dissolved Nickel	NL	µg/L	Semi-Annual	Grab
Dissolved Manganese	NL	µg/L	Semi-Annual	Grab
Dissolved Selenium	NL	µg/L	Semi-Annual	Grab
Dissolved Silver	NL	µg/L	Semi-Annual	Grab
Dissolved Vanadium	NL	µg/L	Semi-Annual	Grab
Dissolved Zinc	NL	µg/L	Semi-Annual	Grab
Phenol	NL	mg/L	Semi-Annual	Grab

NL = No Limit; monitor and report

Grab = An individual sample collected over a period of time not to exceed 15-minutes or the time needed to collect the proper sample amount.

Semi-Annual = The semi-annual monitoring periods shall be defined as January 1 – June 30 and July 1 – December 31. The results shall be submitted annually as part of the Groundwater Annual Report as described in Section 21.C.1 of the Fact Sheet.

**21r. Limitations and Monitoring Requirements: Groundwater Monitoring**

Effective Dates: During the period beginning with the permit's major modification date, and lasting until the permit expiration date, the permittee is authorized to manage pollutants at Ash Pond D and Ash Pond E. The groundwater shall be monitored by the permittee as specified below except where groundwater monitoring is superseded pursuant to a solid waste permit issued in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.)

Ash Pond D and E Observation Wells	Stratum D	ED-4, ED-5, ED-17
	Stratum E	ED-31
	Stratum F	ED-26, ED-33

PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	<u>Limitations</u>	<u>Units</u>	<u>Frequency</u>	<u>Sample Type</u>
Static Water Level (mean sea level)	NL	Feet	Annual	Measurement
pH	NL	Standard Units	Annual	Grab
Specific Conductivity	NL	µmhos/cm	Annual	Grab
Hardness (as CaCO <sub>3</sub> )	NL	mg/L	Annual	Grab
Chlorides	NL	mg/L	Annual	Grab
Fluoride	NL	mg/L	Annual	Grab
Sodium	NL	mg/L	Annual	Grab
Potassium	NL	mg/L	Annual	Grab
Sulfate	NL	mg/L	Annual	Grab
Total Organic Carbon	NL	mg/L	Annual	Grab
Temperature	NL	°C	Annual	Grab
Dissolved Arsenic	NL	µg/L	Annual	Grab
Dissolved Barium	NL	µg/L	Annual	Grab
Dissolved Cadmium	NL	µg/L	Annual	Grab
Dissolved Copper	NL	µg/L	Annual	Grab
Dissolved Iron	NL	µg/L	Annual	Grab
Dissolved Mercury	NL	µg/L	Annual	Grab
Dissolved Lead	NL	µg/L	Annual	Grab
Dissolved Nickel	NL	µg/L	Annual	Grab
Dissolved Manganese	NL	µg/L	Annual	Grab
Dissolved Selenium	NL	µg/L	Annual	Grab
Dissolved Silver	NL	µg/L	Annual	Grab
Dissolved Vanadium	NL	µg/L	Annual	Grab
Dissolved Zinc	NL	µg/L	Annual	Grab
Phenol	NL	mg/L	Annual	Grab

NL = No Limit; monitor and report

Grab = An individual sample collected over a period of time not to exceed 15-minutes or the time needed to collect the proper sample amount.

Annual = The annual monitoring period shall be defined as January 1 – December 31. The results shall be submitted annually as part of the Groundwater Annual Report as described in Section 21.C.1 of the Fact Sheet.

**21s. Limitations and Monitoring Requirements: Groundwater Monitoring**

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date, the permittee is authorized to manage pollutants at the Oily Waste Treatment Basin. The groundwater shall be limited and monitored at the observation wells by the permittee as specified below.

Observation Wells                      Oily Waste Treatment Basin                      OWB-1, OWB-2, OWB-3, OWB-4, OWB-5

PARAMETER	GROUNDWATER MONITORING		MONITORING REQUIREMENTS	
	<u>Limitations</u>	<u>Units</u>	<u>Frequency</u>	<u>Sample Type</u>
Static Water Level (mean sea level)	NL	Feet	Semi-Annual	Measurement
pH	NL	Standard Units	Semi-Annual	Grab
Specific Conductivity	NL	µmhos/cm	Semi-Annual	Grab
Hardness (as CaCO <sub>3</sub> )	NL	mg/L	Semi-Annual	Grab
Chlorides	NL	mg/L	Semi-Annual	Grab
Fluoride	NL	mg/L	Semi-Annual	Grab
Sodium	NL	mg/L	Semi-Annual	Grab
Potassium	NL	mg/L	Semi-Annual	Grab
Sulfate	NL	mg/L	Semi-Annual	Grab
Total Organic Carbon	NL	mg/L	Semi-Annual	Grab
Temperature	NL	°C	Semi-Annual	Grab
Dissolved Arsenic	NL	µg/L	Semi-Annual	Grab
Dissolved Barium	NL	µg/L	Semi-Annual	Grab
Dissolved Cadmium	NL	µg/L	Semi-Annual	Grab
Dissolved Copper	NL	µg/L	Semi-Annual	Grab
Dissolved Iron	NL	µg/L	Semi-Annual	Grab
Dissolved Mercury	NL	µg/L	Semi-Annual	Grab
Dissolved Lead	NL	µg/L	Semi-Annual	Grab
Dissolved Nickel	NL	µg/L	Semi-Annual	Grab
Dissolved Manganese	NL	µg/L	Semi-Annual	Grab
Dissolved Selenium	NL	µg/L	Semi-Annual	Grab
Dissolved Silver	NL	µg/L	Semi-Annual	Grab
Dissolved Vanadium	NL	µg/L	Semi-Annual	Grab
Dissolved Zinc	NL	µg/L	Semi-Annual	Grab
Phenol	NL	mg/L	Semi-Annual	Grab
Total Petroleum Hydrocarbons – Diesel Range Organics*	NL	mg/L	Semi-Annual	Grab
Total Petroleum Hydrocarbons – Oil Range Organics**	NL	mg/L	Semi-Annual	Grab
Benzene	NL	mg/L	Semi-Annual	Grab
Ethylbenzene	NL	mg/L	Semi-Annual	Grab
Toluene	NL	mg/L	Semi-Annual	Grab
Total Xylenes	NL	mg/L	Semi-Annual	Grab

NL = No Limit; monitor and report

\*TPH = Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

\*\*TPH = Total Petroleum Hydrocarbons – Oil Range Organics (ORO) shall be measured by EPA SW 846 Method 8015B or any other Virginia Environmental Laboratory Accreditation Program (VELAP) approved method.

Grab = An individual sample collected over a period of time not to exceed 15-minutes or the time needed to collect the proper sample amount.

Semi-Annual = The semi-annual monitoring periods shall be defined as January 1 – June 30 and July 1 – December 31. The results shall be submitted annually as part of the Groundwater Annual Report as described in Section 21.C.1 of the Fact Sheet.

**22. Groundwater Monitoring – Existing Permit:**Background

9VAC25-280-10 et seq. became effective February 12, 2004. This regulation establishes statewide groundwater standards (9VAC25-280-40) as well as groundwater standards applicable by physiographic province (9VAC25-280-50) and groundwater criteria applicable by physiographic province (9VAC25-280-70).

Groundwater monitoring has been ongoing at the Dominion – Possum Point Power Station since 1985, focusing on potential impacts from the operation of Ash Pond D, Ash Pond E, and the Oily Waste Treatment Basin. The facility currently monitors fifteen wells associated with Ash Pond D and Ash Pond E, as well as five wells associated with the Oily Waste Treatment Basin. The parameters and monitoring frequencies are defined above in 21.p through 21.r of the Fact Sheet.

Both ash ponds received coal combustion by-products prior to the facility's two coal fire units being converted to natural gas. Ash Pond D was rehabilitated and reconstructed into a long-term ash repository pond that receives ash dredged from Ash Pond E, as well as dredge spoil material that is not related to operations at the Station provided the material originated from the Potomac River, Quantico Creek or public water bodies in the Quantico Creek watershed meeting the definition of State waters in Virginia. Ash Pond E receives discharges from Outfall 501, Outfall 502, decanted water from Ash Pond D, untreated Potomac River water, and stormwater. The Oily Waste Treatment Basin receives process water discharges from various plant operations and stormwater runoff. These contributions are detailed in Section 10, Tables 2 and 3 of the Fact Sheet.

In March 2012, the facility submitted an approval request for a revision to their Groundwater Monitoring Plan. The revision included the removal of a specified order of sample collection within Section 5.4 of the plan previously approved on February 25, 2008. Specifically, the removal of the wording that samples be collected from the background well first and then progressing from the wells with the lowest known constituent levels to highest known constituent levels. The request was reviewed by DEQ staff who determined that there were no adverse consequences of the facility's proposal. The revised Groundwater Monitoring Plan was approved by letter dated April 9, 2012.

Data Evaluation and Recommendations – Existing Permit

In support of the permit reissuance, DEQ staff reviewed the 2010 annual groundwater monitoring report with the following comments and recommendations provided:

1. Based upon the groundwater data submitted, the 2010 data indicates exceedances of the Virginia Groundwater Quality Standards for dissolved cadmium, dissolved zinc, phenol, and pH. However, significant changes in the groundwater quality beneath the Station do not appear to have occurred.
2. The 2010 report indicates that monitoring well ED-15 is damaged. Because this well is utilized to monitor background groundwater concentrations it was recommended that the damaged well be properly abandoned and replaced. Based on the 2011 annual groundwater monitoring report, monitoring well ED-15 was repaired in July 2011 and no further action is warranted.
3. The 2010 report indicates that monitoring well ED-4 has not had sufficient water to be sampled the last two monitoring events. It is staff's recommendation that this well be reinstalled so that the groundwater in the vicinity of the well is properly monitored. A special condition has been added to the permit with this reissuance to evaluate Stratum B monitoring network and propose any necessary changes for characterization of Stratum B water quality and to make any well modifications, replacements or abandonments deemed necessary. See Section 25.m of the Fact Sheet for this requirement.

4. It is staff's recommendation that the analysis for TPH-Oil Range Organics (TPH-ORO) be added to the list of required analytes for the monitoring wells surrounding the Oily Waste Treatment Basin (OWB-1, OWB-2, OWB-3, OWB-4, and OWB-5). This recommendation is based on the fact that the analyses for TPH-Diesel Range Organics (DRO) and TPH-Gasoline Range Organics (GRO) do not provide results for the heavier carbon chain constituents found in oil compounds, which may potentially be leaching from the Oily Waste Treatment Basin. Given the facility's history of using heavy oils on site, the analysis of TPH-ORO is appropriate to capture the range of oils potentially present.

TABLE 9 – Constituent Fraction of TPH Groups*					
TPH - GRO		TPH-DRO		TPH-ORO	
Aliphatics	C6 >C6 – C8 >C8 – C-10	Aliphatics	>C10 – C12 >C12 – C16 >C16 – C35	Aliphatics	Not Applicable
Aromatics	>C7 – C8 >C8 – C10	Aromatics	>C10 – C12 >C12 – C16 >C16 – C21	Aromatics	>C21-C35
*As provided by the Missouri Department of Natural Resources					

Based on the above recommendation, monitoring for TPH-Oil Range Organics has been added to the permit with this reissuance. This analysis is only required for monitoring wells OWB-1, OWB-2, OWB-3, OWB-4, and OWB-5. See Section 21.r of the Fact Sheet for this requirement.

The DEQ staff memo is found as Attachment 17.

## 23. Groundwater Monitoring – Post Operational Life Requirements:

EPA published a Final Rule for the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities on April 17, 2015. The rule established technical requirements for CCR landfills and surface impoundments under Subtitle D of the Resource Conservation and Recovery Act RCRA. These regulations address the management and disposal of coal ash including stability, groundwater monitoring, and fugitive dust emissions. Adoption of the federal regulations into the Virginia Solid Waste Management Regulations is anticipated in late 2015.

CCR Surface Impoundments have been regulated under the VPDES program during their operational life. The Virginia Solid Waste Management Regulations (VSWMR) applies after their operational life and provides for closure requirements in 9 Virginia Administrative Code 20-81-370. Their long-term management which includes closure, post-closure, and groundwater monitoring will be addressed by the solid waste program in accordance with the VSWMR and requirements under the EPA rule as applicable. Existing groundwater monitoring, corrective action and/or risk assessment plans currently in effect under the VPDES permit will remain in effect until such time that they are superseded by a groundwater monitoring program pursuant to a solid waste permit for closure and/or post-closure in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.).

**24. Quantico Creek Special Study:**

Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use. Results from the estuarine bioassessment, sediment chemistry analysis (elevated nickel levels), and sediment bioassay for estuarine waters were all factors for this determination (see Attachment 18 for sediment chemistry results). Station 1aQUA001.09, approximately 0.75 rivermiles above the railroad bridge, was sampled in 2001 for the Coastal 2000 program (part of the estuarine probabilistic monitoring program).

On July 16, 2014, DEQ staff conducted sediment sampling at four DEQ monitoring stations located in Quantico Creek including Station 1aQUA001.09 noted above (Attachment 19). Selected sample locations had elevated metals concentrations with some values exceeding estuarine and/or freshwater screening values (Attachment 20). However, the data were variable and not sufficient to draw conclusions as to whether Ash Ponds A, B, C, D and/or E or operations in general at the Possum Point Power Station are impacting Quantico Creek. As the embayment is subject to tidal action, it is uncertain whether these higher concentrations are due to tidal fluctuations or whether there may be additional sources causing or contributing to the impairment.

DEQ has initiated a special study including sediment and water column sampling in both the tidal and free-flowing portions of Quantico Creek. This monitoring is proposed to further investigate the aquatic life use impairment identified for a portion of the tidal embayment and to better understand the potential sources of pollutants causing and/or contributing to the impairment. Quantico Creek is an approximate 39 square mile watershed. Historical activities in the watershed include pyrite mining in the Prince William Forest National Park located upstream in the free-flowing portion of the watershed. Additionally, the watershed has undergone significant development over the last 30 years as a suburb of the Washington D.C. metropolitan area.

**25. Other Permit Requirements:**

- a) Part I.B. of the permit contains additional quantification levels and compliance reporting instructions.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

- b) Permit Section Part I.C., details the requirements for Whole Effluent Toxicity (WET) Program.

The VPDES Permit Regulation at 9VAC25-31-210 requires monitoring and 9VAC25-31-220.I, requires limitations in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. A WET program is imposed for municipal facilities with a design rate >1.0 MGD, with an approved pretreatment program or required to develop a pretreatment program, or those determined by the Board based on effluent variability, compliance history, instream waste concentration, and receiving stream characteristics.

The Dominion - Possum Point Power Station's instream waste concentration and the activity at this facility warrant monitoring under the WET program. The test protocol utilizes bioassay-testing methods in measuring the potential for the effluent to cause chronic toxicity to aquatic organism in the receiving stream. Table 10 below provides a detailed description of the facility's existing permit requirements for toxicity testing.

TABLE 10 – Existing Permit Requirements for Whole Effluent Toxicity			
Outfall	Acute	Chronic	Frequency
001/002	<i>C. dubia</i>	<i>P. promelas</i>	Annual
003	<i>C. dubia</i>	<i>P. promelas</i>	Annual
004	<i>C. dubia</i> / <i>P. promelas</i>	<i>C. dubia</i> / <i>P. promelas</i>	Annual

With this reissuance, WET language shall require the permittee to perform annual chronic testing using both *C. dubia* and *P. promelas* as the test species at Outfalls 001/002, 003, and 004 for the duration of the permit (Attachment 21). Table 11 below provides a detailed description of the facility's proposed permit requirements for toxicity testing.

TABLE 11 – Proposed Permit Requirements for Whole Effluent Toxicity		
Outfall	Chronic	Frequency
001/002	<i>C. dubia</i> / <i>P. promelas</i>	Annual
003	<i>C. dubia</i> / <i>P. promelas</i>	Annual
004	<i>C. dubia</i> / <i>P. promelas</i>	Annual

c) Permit Section Part I.D. details the requirements of a Groundwater Monitoring Plan.

The permittee shall continue groundwater sampling and reporting in accordance with Part I.A. of the permit and the groundwater monitoring plan approved on April 9, 2012. The purpose of this plan is to determine if the integrity of Ash Pond D, Ash Pond E, and the Oily Waste Treatment Basin is being maintained and to indicate if activities at the site are resulting in violations of the Board's Ground Water Standards. The permittee shall review the existing Groundwater Monitoring Plan and notify the DEQ Northern Regional Office, in writing, whether it is still accurate and complete by July 3, 2013. If the Groundwater Monitoring Plan is no longer accurate and complete, a revised Groundwater Monitoring Plan shall be submitted for approval to the DEQ Northern Regional Office by July 3, 2013. The approved plan is an enforceable part of the permit. Any future changes to the plan must be submitted for approval to the DEQ Northern Regional Office within 90 days of the changes.

- 1) The permittee shall submit a Groundwater Annual Report to the DEQ Northern Regional Office by April 30<sup>th</sup> of each year. The Annual Report shall include the annual and semi-annual sampling results for that year. The Annual Report shall include a review of the groundwater quality on the basis of background quality, Water Quality Standards, and statistical deviation thereof, as applicable with the Anti-degradation Policy for Groundwater.
- 2) Should data warrant, DEQ may require a Site Characterization Report for the Oily Waste Treatment Basin. The report shall include, at a minimum, an assessment of the following: the spatial extent and severity of the contamination with concentration depicted by isoconcentration maps, the cause of the contamination, identification of both human health and environmental receptors, assessment of risk to each receptors, and an analysis of remediation alternatives. The permittee shall submit the Site Characterization Report no later than three years after being notified by the regional office.
- 3) Following review and approval of a Site Characterization Report, a Corrective Action Plan may be required by DEQ-NRO. The plan shall be due within 180 days of being notified by the regional office. The plan shall set forth the steps to be taken by the permittee to ensure that the contamination source is eliminated or that the contaminant plume is contained on the permittee's property. In addition, based on the extent of contamination, a risk analysis may be required. Once approved, this plan and/or analysis shall be incorporated into the permit

by reference and become an enforceable part of the permit. The permittee shall put into practice the corrective action plan within 180 days after it has been approved by the regional office.

d) Permit Section Part I.E. details the requirements of a Stormwater Management Plan.

Industrial stormwater discharges may contain pollutants in quantities that could adversely affect water quality. Stormwater discharges which are discharged through a conveyance or outfall are considered point sources and require coverage by a VPDES permit. The primary method to reduce or eliminate pollutants in stormwater discharges from an industrial facility is through the use of best management practices (BMPs). Stormwater Management Plan requirements are derived from the VPDES General Permit for Stormwater Discharges Associated with Industrial Activity, 9VAC25-151 et seq.

**26. Other Special Conditions:**

- a) O&M Manual Requirement. The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the facility that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31. The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the facility in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ Northern Regional Office for review and approval.
- b) Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:
- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
    - (1) One hundred micrograms per liter;
    - (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
    - (3) Five times the maximum concentration value reported for that pollutant in the permit application;or
    - (4) The level established by the Board.
  - b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
    - (1) Five hundred micrograms per liter;
    - (2) One milligram per liter for antimony;
    - (3) Ten times the maximum concentration value reported for that pollutant in the permit application;or
    - (4) The level established by the Board.
- c) Materials Handling/Storage. 9VAC25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.
- d) Prohibition of Chemical Additives. Chemical additives may not be used in non-contact cooling water without prior notification to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). The chemical additives may be toxic and/or otherwise violate the receiving stream water quality standards. Upon notification, the Regional Office can determine if this activity will warrant a modification to the permit.
- e) Polychlorinated Biphenyl. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid. Compliance with this requirement shall be determined using EPA Method 608 (as referenced in 40 CFR Part 136).
- f) Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively

revoked and reissued to incorporate appropriate limitations.

- g) Water Quality Criteria Monitoring. State Water Control Law §62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, subpart 131.11. To ensure that water quality criteria are maintained, the permittee is required to analyze the facility's effluent at Outfall 004 and Outfall 005 once every five years for the substances noted in Attachment A of this VPDES permit.
- h) 126 Priority Pollutants. Federal Effluent Guidelines (40 CFR 423.13(d)(1)) state that the quantity of pollutants in cooling tower blowdown discharges (Appendix A to Part 423) shall be in non-detectable amounts. Sampling for these pollutants (except total chromium and total zinc) at the discharge point for Outfalls 201 and 202 shall be conducted annually when there is a discharge. At the permitting authority's discretion (40 CFR 423.13(d)(3)), compliance with the limitations for the 126 Priority Pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.
- i) In-stream Monitoring. Monitoring of the thermal mixing zone shall take place twice per year. The monitoring results shall be presented as a temperature plot with 3-degree Celcius isotherms and shall be taken as near to full plant operating conditions as reasonably possible. Monitoring and reporting shall be conducted in accordance with the following schedule:

Permit Year	Monitoring Period	Report Submission Dates
First	February 2013	May 31, 2013
First	July 2013	October 31, 2013
Second	February 2014	May 31, 2014
Second	July 2014	October 31, 2014
Third	February 2015	May 31, 2015
Third	July 2015	October 31, 2015
Fourth	February 2016	May 31, 2016
Fourth	July 2016	October 31, 2016
Fifth	February 2017	May 31, 2017
Fifth	July 2017	October 31, 2017

- j) Debris Collection. Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters, or facility operations, including all debris collected on the intake trash racks, shall be disposed of in a manner to prevent any of the removed substances, or runoff from such substances, from entering waters of the State.

k) Solids in Ash Pond D.

- a. Ash Pond D may be used as a repository for dredge spoil material and residuals removed from facilities, areas, and systems related to operation and maintenance of Possum Point Power Station. These materials and residuals include :
  - 1) Solids from VPDES treatment ponds and stormwater management facilities;
  - 2) Solids from old/closed VPDES treatment ponds (Ash Pond A, B and C);
  - 3) Solids from station floor drains, lift stations, and sumps;
  - 4) Water treatment plant filter cake and cooling tower basin sludge;
  - 5) Soil and fines from station beautification and land restoration projects, including the coal pile area, deicing grit, abrasives, and inert cleanup debris such as surplus soil, rock, and gravel; and
  - 6) Sand/silt/sediment in the Potomac River and Quantico Creek within and adjacent to cooling water intake structures, outfall structures, oil barge berths, shoreline revetments, boat ramp, transportation structures, and navigation-related channels and structures.
- b. Ash Pond D may be used as a repository for dredge spoil material that is not related to operations at Possum Point Power Station provided the material originated from the Potomac River, Quantico Creek or public bodies of water in the Quantico Creek watershed meeting the definition of state waters in Virginia. The following guideline shall be followed:
  - 1) Dominion shall provide written notice to the Department of Environmental Quality-Northern Regional Office (DEQ-NRO) at least 30 days prior to the placement of any dredge spoil material in Ash Pond D. This notice shall include as a minimum the following information:
    - a) Sampling tests and laboratory results (See 3 below);
    - b) Copies of all permits or regulatory authorizations required for the project;
    - c) Project schedule dates;
    - d) Method of placement;
    - e) Original location of material;
    - f) Type and volume of material; and
    - g) Name, address, and telephone number of dredging contractor (for placement of dredge spoil material) or station contact (for placement of station residuals).
  - 2) Specific approval by the DEQ-NRO is not required for a placement project but the DEQ-NRO shall have the right to request additional information or halt any noticed activity. If the placement project is not halted by the DEQ-NRO within 30 days of receipt of the above notice, the project is deemed authorized.
- c. Sampling Requirements.
  - 1) A "sample" is defined as a Core Dredge sample, which will be a composite of dredge material from the river, stream or lake bottom to the depth of the intended dredge.
  - 2) Number of Samples taken
    - a) >300,000 Cubic Yards of Material  
For every 100,000 cubic yards of material a representative sample shall be collected. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
    - b) <300,000 Cubic Yards, but >50,000 Cubic Yards of Material  
There shall be three representative samples of dredge area. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
    - c) <50,000 Cubic Yards, but >1,000 Cubic Yards of Material  
There shall be two representative samples of dredge area. These samples shall best represent the materials being placed in Ash Pond D from the dredge area.
    - d) <1,000 Cubic Yards of Material  
No sampling requirement shall apply to projects involving the placement of material less than 1,000 cubic yards with approval from Dominion (Virginia Power).

- 3) All parameters limited in Attachment B shall be sampled. The permittee shall use Attachment B as a reporting form which will be submitted to DEQ-NRO at least 30 days prior to placement in Ash Pond D. If the measured constituents in the sample exceed any respective threshold levels listed in Attachment B, the material shall not be placed in Ash Pond D.
  - 4) Materials and residuals related to routine station operations and dredge materials identified in Part I.F.11.a and Part I.F.11.b of the permit (Sections 22.k.a and 22.k.b of the Fact Sheet) shall be tested prior to initial placement under this protocol and if station processes have not materially changed, further testing is not required.
  - 5) The above sampling requirements for any placement activity may be waived in the event of declared public emergency conditions or by consent of the DEQ-NRO.
- d. The placement of any material in Ash Pond D shall not be incompatible with the Ash Pond D liner system or cause a violation of the VPDES permit requirements applicable to Outfall 005 at Ash Pond E.
  - e. Dominion shall retain records relating to the placement event for a minimum of three years and comply with the requirements of Part II.B.2 of the subject permit.
  - f. Dredging shall be performed in accordance with all Federal and Virginia laws and regulations.
- l) 316(b) Special Condition. The facility includes a cooling water intake structure governed by §316(b) of the Clean Water Act which requires that the location, design, construction and capacity of the cooling water intake structures reflect the "best technology available for minimizing adverse environmental impact". The Possum Point – December, 1976 environmental report on impingement and entrainment studies conducted at the facility indicated minimal or no adverse environmental impact. The special condition requires continued compliance with §316(b) and submittal of new data that was recently collected in response to EPA's Phase II requirements. Collected data and any changes to the intake structures or conditions will be reevaluated at each reissuance to monitor continued compliance with the requirement. The condition also includes a reopener, should further 316(b) related conditions become necessary once the EPA Phase II rule is finalized or a new BPJ determination is required.
  - m) Re-Evaluation of Stratum B. Within 180 days of the permit reissuance (April 3, 2013), the permittee shall submit to the DEQ- Northern Regional Office for review and approval, a work plan to evaluate Stratum B monitoring network and propose any necessary changes for characterization of Stratum B water quality. Any well modifications, replacements or abandonments proposed in the approved plan must be completed within 180 days of the plan approval.
  - n) PCB Monitoring. The permittee shall conduct PCB monitoring using low-level PCB analysis to support the PCB TMDL for the fish consumption use impairment in the Tidal Potomac River.

- o) TMDL Reopener. This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.
- p) Ash Pond Dewatering Special Condition. The permittee shall notify the DEQ Northern Regional Office at least 72 hours prior to the planned commencement of the discharge to draw down the water elevation in Ash Pond D in preparation of pond closure. A second notification to the DEQ Northern Regional Office shall be provided within 24 hours of initiating the discharge to draw down the water elevation in Ash Pond D.
- q) Ash Pond Closure Stormwater Management Special Condition. Best management practices (BMPs), structural and/or non-structural, shall be utilized by the permittee to minimize the impact of ash pond closure activities on stormwater quality. Ash pond closure activities may include, but are not limited to, the process of ash movement for off-site disposal, ash loading and unloading areas, any area(s) associated with the storage of ash prior to transport off-site, and vehicle tracking associated with the movement of ash.

The facility's Stormwater Pollution Prevention Plan (SWPPP) shall include a description of the BMPs being implemented and a regular schedule for preventive maintenance of all BMPs where appropriate. All structural BMPs identified in the SWPPP shall be maintained in effective operating condition and shall be inspected for structural integrity and operational efficiency once per week during ash pond closure activities. Results of the weekly inspections and actions needed and performed in response to the weekly inspections shall be documented per the SWPPP.

- r) Ash Handling Area Outfall Inspections. Inspections of Outfall 010 and Stormwater Outfall S108 shall be conducted at a frequency of once every five business days and no later than forty-eight (48) hours following a measurable storm event. Corrective actions identified as a result of these inspections shall be implemented as soon as possible, but no later than seven (7) days after discovery. Results of these inspections and actions needed and performed in response to these inspections shall be documented per the SWPPP. Ash handling area outfall inspections shall be conducted as noted above until such time as the ash pond closure project is completed.
- s) Weir Structure Discharge Prohibition. Discharge from the weir structure associated with the Ash Pond A, B, and C complex is not authorized by this permit.
- t) Limitation Exceedance for Internal Outfall 503 and Outfall 005. The permittee shall immediately cease the discharge upon becoming aware of an exceedance of an established effluent limit and/or WET limit at Internal Outfall 503 or Outfall 005 (Interim Configuration Discharge from Holding Basin). The permittee shall promptly notify DEQ, in no case later than 24 hours, after discovery of the exceedance. Should an exceedance occur, the permittee shall initiate a review of the treatment operations and data to identify the cause(s) of the exceedance and initiate appropriate corrective action(s). Resumption of the discharge(s) shall not occur until such time as an evaluation report is provided to DEQ and written authorization to resume the discharge is granted.
- u) Drawdown Rate Requirement. The drawdown rate of any pond or basin shall not exceed 6 inches/day to maintain the integrity of the dams, unless approved in writing by the Department of Conservation and Recreation Dam Safety Program.
- v) Conceptual Engineering Report (CER) Requirement (Internal Outfall 503).  
Prior to constructing any wastewater treatment works, the permittee shall submit a final CER to the DEQ-Northern Regional Office. DEQ approval shall be secured prior to constructing any wastewater treatment works. The permittee shall construct the wastewater treatment works in accordance with the approved CER. No later than 14 days following completion of construction of any project for which a CER has been approved, written notification shall be submitted to the DEQ-Northern Regional Office certifying that, based on an inspection of the project, construction was completed in accordance with the approved CER. The written notification shall be certified by a professional engineer licensed in the Commonwealth of Virginia or signed in accordance with Part II.K of this permit. The installed wastewater treatment works shall be operated to achieve design treatment and effluent concentrations. Approval by DEQ does not relieve the owner of the responsibility for the correction of design and/or operational deficiencies. Noncompliance with the CER shall be deemed a violation of this permit.

w) Outfall 010 Groundwater (Toe Drain) Removal and Re-designation to S107

Upon successful demonstration to and written approval from DEQ confirming that all groundwater contributions to the Outfall 010 discharge have been removed, the requirements of Part I.A.15 of this permit shall become effective and supersede the requirements of Part I.A.8. The groundwater contributions include both the infiltration through the earthen berm as well as groundwater diverted around the impoundment. Should the permittee separate and remove all groundwater contributions to the discharge, then the discharge would be comprised of only stormwater. Stormwater-only discharges from this outfall would be designated as Outfall S107 and governed by the requirements of Part I.A.15, Part I.E, and Part I.F.18. Should the permittee pursue separation of the groundwater contributions to the discharge, a demonstration plan shall be submitted to DEQ for review and approval. This demonstration plan shall consider, at a minimum: observations of the outfall during dry-weather with variable antecedent precipitation conditions to confirm no discharge; seasonal wet-weather conditions to include potential inflow and infiltration contributions; other information as appropriate, such as design schematics, to support a conclusion that groundwater contributions have been removed from the discharge.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

**27. Changes to the Permit from the Previously Issued Permit:**

## a) Special Conditions:

1. An Ash Pond Dewatering Special Condition was added to the permit to ensure the discharge does not cause or contribute to an excursion of an applicable water quality standard.
2. An Ash Pond Closure Stormwater Management Special Condition was added to the draft permit to ensure adequate stormwater management related to ash pond closure activities.
3. An Ash Handling Area Outfall Inspection Special Condition was added to the draft permit to ensure adequate stormwater management related to ash pond closure activities.
4. A Weir Structure Discharge Prohibition Special Condition was added to the draft permit as a discharge from the weir structure is not authorized.

## b) Monitoring and Effluent Limitations:

1. Additional monitoring and limitations have been added to the draft permit for Outfall 005 (Interim Configuration) with this modification.
2. Monitoring has been added to the draft permit for Outfall 010 with this modification.
3. Monitoring and limitations have been added to the draft permit for Internal Outfall 503 with this modification.
4. The existing groundwater monitoring, corrective action and/or risk assessment plans currently in effect under the facility's permit shall remain in effect until such time as they are superseded by a solid waste permit in accordance with the Virginia Solid Waste Management Regulations (9VAC20-81-10 et seq.). The construction drawings, specifications, and solid waste permitting application package for the Possum Point Power Station will be submitted to DEQ under separate cover.

## c) Other:

1. The discharge of Internal Outfall 503 (interim) is authorized through Outfall 001/002, Outfall 004, and/or Outfall 005.
2. Internal Outfall 503 (interim) has been identified as a source to Outfall 001/001, Outfall 004, and/or Outfall 005 based on operational needs.
3. Outfall S35 and S108 (stormwater) were added to the permit with this modification.
4. The discharge from the Unit 6 Reverse Osmosis (RO) trailers was added to Outfall 004 as a permanent source to the outfall.
5. Uncontaminated river water was added to the list of allowable non-stormwater discharges.
6. Outfall S107 was re-identified as Outfall 010.
7. As a result of closure activities, Internal Outfall 502 will be permanently re-routed to Outfall 004 rather than Ash Pond E.

8. As a result of closure activities, the subsurface dewatering system has been added as a discharge source to the final configuration of Outfall 005.
9. Once per month (1/M) monitoring for Aluminum, Barium, Beryllium, Boron, Cobalt, Iron, Molybdenum and Vanadium, to be done concurrently with WET test monitoring, has been added to Outfall 005 (Interim Configuration), Outfall 010, and Internal Outfall 503.

**28. Changes to the Draft Permit Published for Public Comment:** The Fact Sheet has been updated to reflect the changes incorporated into the proposed permit as noted below.

- A special condition has been added requiring a final Conceptual Engineering Report to be submitted for Internal Outfall 503.
- A Drawdown Rate Special Condition was added to the draft permit to ensure proper drawdown rates related to ash pond closure activities.
- The special condition requiring notification to DEQ of commencement of dewatering activities has been expanded to require notification prior to commencing discharge as well after initiating a discharge.
- The average flow identified for Outfall 004 was increased from 2.02 MGD to 2.59 MGD to recognize the flow contributed from Internal Outfall 502.
- Outfall 005 under the “Current Configuration” was removed from the permit. Only the interim configuration is recognized. The historical configuration of the sources, treatment system and discharge authorized through Outfall 005 no longer exists. Likewise, all associated requirements for this outfall under the current configuration have been removed. These include:
  - Whole Effluent Toxicity requirements for Outfall 005 (Current Configuration) were removed.
  - The water quality criteria monitoring requirement for Outfall 005 (Current Configuration) has been removed.
- Internal Outfall 503 has been explicitly identified as an authorized source to discharge through Outfall 005.
- The dilution ratio for the receiving stream of Outfall 005 (interim), an unnamed tributary (UT) to Quantico Creek, has been changed so that no dilution is applied in developing effluent limits for this outfall. Accordingly, pollutant effluent limits and whole effluent toxicity (WET) limits for this discharge are more stringent than what was contained in the draft permit.
- The sample type for Total Hardness at Outfall 005 (Interim) changed from grab to 4H-C to be consistent with sampling requirements for other parameters.
- The receiving stream for Outfall 010 has been changed from the tidal Quantico Creek embayment to an unnamed tributary to Quantico Creek on the permit cover page. No dilution is incorporated in developing effluent limits for this discharge.
- Effluent limitations have been added for Outfall 010. The draft permit included monitoring requirements without effluent limitations. The list of parameters for which effluent limits and/or monitoring requirements have been established for Outfall 010 aligns with the parameters of concern for coal combustion residuals (CCR), and is consistent with the list of parameters governed at Internal Outfall 503. The following constituents have been added to the list of monitored and/or limited pollutants which were not identified in the draft permit: total suspended solids, oil and grease, aluminum, beryllium, boron, chromium III, chromium VI, cobalt, molybdenum, acute and chronic toxicity. Likewise, monitoring for the following pollutants has been removed from proposed permit consistent with the CCR constituents: total solids, fluoride, sodium, potassium, sulfate, total organic carbon, manganese (dissolved) and phenol.
- The effluent limits for Outfall 010 become effective 30-days after the effective date of the permit.
- Outfall 010 has been authorized to discharge to Internal Outfall 503.
- Outfall 010 may be re-designated to a stormwater discharge, identified as Outfall S107, if the permittee can demonstrate that all groundwater contributions to the discharge have been removed.
- Laboratory analytical quantification levels (QLs) have been added to Outfall 010 in conjunction with the proposed effluent limits.

- A second Part I.A effluent limits and monitoring requirements page for Internal Outfall 503 was added to the permit. The first page establishes the requirements when Internal Outfall 503 is routed to either Outfall 001/002 or 004 for discharge to surface waters. These outfalls discharge to tidal Quantico Creek and have a dilution ratio of 2:1 applied for both acute and chronic mixing. These limits were contained in the draft permit published for public notice. A second effluent limits and monitoring requirements page was established authorizing the discharge through Outfall 005. The receiving stream for this outfall is an unnamed tributary to Quantico Creek. No dilution is included in the development of effluent limits for this point of discharge.
- Language has been added to clarify that when the Outfall 005 discharge is comprised of effluent directly from Internal Outfall 503, the monitoring results from Internal Outfall 503 may be used to satisfy effluent monitoring requirements for Outfall 005. Effluent and monitoring requirements at Outfall 005 are required if and when there are discharges from the holding basin.
- A maximum discharge flow rate of 2.88 MGD has been established for Internal Outfall 503 and Outfall 005.
- Monitoring at Outfall 005 and Internal Outfall 503 has been added for the suite of parameters associated with coal combustion residuals for which there are no water quality criteria, and accordingly, no effluent limits established in the permit. Monitoring for these parameters is included at a frequency of once per month to be collected in conjunction with WET testing.
- The monitoring frequency for Internal Outfall 503 and Outfall 005 has been increased to three days/week for the effluent limited pollutants, with weekly reporting of results.
- Laboratory analytical quantification levels (QLs) for Outfall 005 (Interim Configuration) and Internal Outfall 503 were lowered to reflect actual laboratory capabilities.
- A limitation exceedance special condition was added to the proposed permit to address any limitation and/or WET limit exceedances at Internal Outfall 503 or Outfall 005. Should the permittee become aware of an effluent limit exceedance the discharge shall be ceased and corrective action implemented before the discharge may resume.
- An Outfall 010 re-designation special condition has been added which specifies the requirements for demonstrating removal of all groundwater from this discharge. Upon written approval from DEQ, the re-designated stormwater Outfall S107 has specific monitoring and management requirements stipulated in the permit.

**29. Variances/Alternate Limits or Conditions: None**

**30. Public Notice Information:**

First Public Notice Date: October 29, 2015

Second Public Notice Date: November 5, 2015

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3853, [susan.mackert@deq.virginia.gov](mailto:susan.mackert@deq.virginia.gov). See Attachment 22 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

**31. Modification Requests Not Related to Ash Pond Closure:**

As a result of the August 20, 2015 modification request a number of items requested in the previous modification requests were no longer necessary (Attachment 23). The discussion below details those modifications that are still requested.

1. The permit modification request received on June 30, 2014, requested uncontaminated river water be added to the list of allowable non-stormwater discharges. Staff has no objection to this request. Uncontaminated river water shall be added to Part I.E.1.b.1 of the facility's VPDES permit.
2. The permit modification request received on June 30, 2014, requested approval for the use of water from the Seal Pit as a back-up raw water supply for Unit 6. Staff has no objection to this request.
3. The permit modification request received on June 30, 2014, requested acknowledgement that the Unit 6 reverse osmosis trailers be recognized as a permanent discharge.
4. The permit modification request received on June 30, 2014, requested that sources contributing to Outfall 007 be reworded. The language was revised to reflect the discharge of Intake Screen Backwash Water is from Units 3, 4, 5, and 6 and to remove the authorization to discharge Intake Screen Backwash Water from Units 3 and 4 through Outfall 007 until such time that Outfall 009 is operational recognizing that Outfall 007 and Outfall 009 are separate. This is reflected in Table 2 and Section 21.e of the fact sheet and Part I.A.5 of the facility's VPDES permit.
5. The permit modification request received on June 30, 2014, requested clarification that Outfall 009 is an intermittent discharge and would only be used if the bridge and trough connecting the intakes fails. This is reflected in Table 3 and Section 21.g of the fact sheet and Part I.A.7 of the facility's VPDES permit.
6. The permit addendum request received on December 24, 2014, requested the addition of stormwater Outfall S35. This is reflected in Table 3 and Section 21.l of the fact sheet and Part I.A.15 of the facility's VPDES permit.
7. The permit addendum request received on December 24, 2014, requested that permit language associated with stormwater Outfall S107 from a stormwater outfall not associated with industrial activity to a stormwater outfall associated with industrial activity. Please see Section 17.c.8 of the fact sheet for discussion.

**32. Additional Comments:**Previous Board Action(s):

None

2013 Reissuance:

Based on comments received from the public during the reissuance of the permit in 2013, the following changes were made to the draft permit after the close of the comment period:

- Monitoring for Total Nitrogen and Total Phosphorus at both the intake and Outfall 001/002 was added to the draft permit.
- Monitoring for Dissolved Copper at both the intake and Outfall 001/002 was added to the draft permit.
- Monitoring for Total Hardness at both the intake and Outfall 001/002 was added to the draft permit.
- Monitoring for Total Nitrogen and Total Phosphorus was added to Internal Outfall 201.
- Monitoring for Total Nitrogen and Total Phosphorus was added to Internal Outfall 202.

2016 Modification:Public Comments:

During the public comment period, DEQ-NRO received comments from 465 citizens and/or organizations via mail, email, and fax.

Comments received during the public notice, and staff responses, are provided in a Response to Comments Document which is located within the permit modification file.

The Agency Director authorized the convening of a public hearing for the proposed permit modification. A majority of State Water Control Board Members did not request a meeting to review the agency decision. As such, staff proceeded with an informal fact-finding public hearing in accordance with Procedural Rule No. 1 and Section 62.1-44.15:02, the results of which will be presented for Board consideration at their regularly scheduled meeting on January 14, 2016.

Staff Comments:

At the request of several members of the General Assembly, DEQ hosted an informational meeting on November 18, 2015, concerning the closure of the ash ponds at the Possum Point Power Station. The informational meeting was intended to supplement the public participation process and allow the public an opportunity to ask DEQ questions.

## Fact Sheet Attachments – Table of Contents

### Dominion – Possum Point Power Station VA0002071

#### 2016 Modification

Attachment 1	NPDES Permit Rating Worksheet
Attachment 2	Facility Flow Diagram
Attachment 3	Industrial Process Wastewater Outfall Location Map
Attachment 4	Bulk Chemical List
Attachment 5	Bulk Chemical Storage Locations
Attachment 6	Site Visit Memorandum (May 2012)
Attachment 7	Planning Statement
Attachment 8	Dissolved Oxygen Criteria
Attachment 9a	Wasteload Allocation Analysis (Existing Permit)
Attachment 9b	90% pH and Temperature Derivation (Existing Permit)
Attachment 10a	Wasteload Allocation Analysis (Outfall 005, Outfall 010, Internal Outfall 503)
Attachment 10b	90% pH Derivation (Outfall 005 and Internal Outfall 503)
Attachment 11	Mixing Zone Study Final Report - 2011
Attachment 12	Correspondence - DGIF
Attachment 13a	Limit Derivation (Existing Permit)
Attachment 13b	Effluent Data (Existing Permit)
Attachment 14	Limit Derivation (Outfall 005, Outfall 010, Internal Outfall 503)
Attachment 15	Whole Effluent Toxicity Endpoint Determination (Outfall 005, Outfall 010, Internal Outfall 503)
Attachment 16	Site Visit Memorandum (April 2014) / Clarifying Correspondence – Dominion
Attachment 17	Groundwater Data Review Memorandum

## Fact Sheet Attachments – Table of Contents (Continued)

### Dominion – Possum Point Power Station VA0002071

#### 2016 Modification

Attachment 18	Sediment Sampling Data (2001)
Attachment 19	Quantico Creek Monitoring Station Locations
Attachment 20	Sediment Sampling Data (2014)
Attachment 21	Whole Effluent Toxicity Endpoint Determination (Existing Permit)
Attachment 22	Public Notice
Attachment 23	Permit Modification Request Letters - Clarification